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CONSUMERS' RESEARCH

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Bulletin

April 1948

CONTENTS

For the Home
Electric Ironing Machines 5
Convenient Stain Remover Kit 12
Home-Built Lawn Mowers 13
Landscaping 20

Clothing
Men's Rubbers and Women's Rubber Boots .. 9
Man's White Shirt 19

Cosmetics
Face Powder 11

For the Automobile
Gasoline 18

Miscellaneous
Photographic Slide Rule 8
Chatillon Baby Scale—Later Report 10
Liquid for "Pretreating" Fuel Oil 24
Reasons for Caution—Strange Substances in Modern Food Preparation 25

Features
Off the Editor's Chest 2
The Consumers' Observation Post 3
Brief 1948 Cumulative Index 24
Ratings of Motion Pictures 27
Phonograph Records ....Walter F. Grueninger 31

CONSUMERS' RESEARCH

Vol. 21 • No. 4 **BULLETIN** April 1948

Off the Editor's Chest

"How do manufacturers react to your adverse findings on their products," is a question that subscribers often ask us. There is no one general comment that provides the answer. The reactions are as varied as the products themselves.

In the field of high-fidelity radio and phonograph equipment, we have been both amazed and pleased to observe that where errors of design and construction have been responsible for the low rating of particular brands, manufacturers in many cases have promptly set to work to correct the faults criticized and have even been grateful for the information that made it possible for them to do so. In the case of household appliances, it often happens that a model our test has shown to be particularly poor quickly becomes "a superseded model" and is no longer listed as available—though the "new model" may often be the same device with a different catalog number, or be changed in only minor ways. We have received few if any serious criticisms or disagreements on the validity of our findings on the appliances and devices tested, and rarely indeed is there any question of the adequacy of our engineering work or judgments.

There are, however, a few exceptions, and some of these have their entertaining aspects. Back in March 1947, we called subscribers' attention to the objections of the secretary of a washing machine trade association to CR's methods of determining washing effectiveness and his offer to lend us a copy of the association's test procedure manual *provided we would keep it secret* and agree to discontinue our present practice of *making comparisons between washing machines by brand name.*

To have made the suggestion at all showed an utter lack of understanding of the rights of engineers and scientists to report as freely and frankly on the products of industry as they do on the facts of natural objects and materials. Also implied was a complete misunderstanding of the right of consumers to be correctly informed by trained engineering experts and of CR to provide its subscribers and the public at large with effective technical data and judgments on different makes by name so that they may judge just which appliance will best serve their needs, or gives the best performance for a given expenditure.

Still more ludicrous was a reaction to CR's recent report on four vacuum cleaners (January 1948 BULLETIN) in which the *Rexair*, Model B (Rexair, Inc., Detroit), was rated as *C. Not Recommended* on the basis of careful and painstaking test procedures which, of course, give chief emphasis to dirt-removing ability of the appliance, and which have been established for some ten years or thereabouts. In a two-page mimeograph headed "Facts You Should Know" signed by T. Russ Hill, with no date, and no further identification of Mr. Hill's title, position, or address, the claim is made:

> The Rexair is a health unit first, last and always. To lose sight of that fact for one minute means losing ground in this business. This is doubly true since this nation is health conscious. . . . Even the vacuum cleaner industry had found that their sales are largely attributable to the health factors. . . . In the health field, Rexair stands alone.

(*Continued on page 26*)

Scientific and Technical Experts and Editors: F. J. Schlink, R. Joyce, M. C. Phillips, Helen P. Alleman, A. R. Greenleaf, Charles L. Bernier, and Dwight C. Aten. Editorial Assistants: Mary F. Roberts and B. Beam.

Symbols used to indicate sources of data and bases of ratings: **A**—recommended on basis of quality; **AA**—regarded as worthy of highest recommendation; **B**—intermediate with respect to quality; **C**—not recommended on basis of quality; **cr**—information from Consumers' Research's own tests or investigations; **1, 2, 3**—relative prices, **1** being low, **3** high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price**; **47, 48**—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least 5 weeks before it is to take effect, accompanying your notice with statement of your old address with name in full. At least a month's notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel.

¶*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.*

★★★For a brief cumulative index of 1948 BULLETINS preceding this issue, see page 24.

CONSUMERS' RESEARCH BULLETIN, issued monthly by Consumers' Research, Inc. Publication Office, Box 429, Easton, Pa. **Address orders and correspondence to Consumers' Research, Washington, N.J.** Single copy 30c. Subscription price (12 issues) $3 per year, U.S.A.; Canada and foreign, $3.50. For libraries, schools, and colleges, a special subscription of nine monthly BULLETINS (October-June, inclusive) is available at $2; Canada and foreign, $2.50. ¶Responsibility for all specific statements of fact or opinion at any time made by Consumers' Research lies wholly with the technical director and staff of the organization. Entered as second-class matter November 9, 1934, at the Post Office at Washington, N.J., under the Act of March 3, 1879; additional entry at Easton, Pa. Copyright, 1948, by Consumers' Research, Inc., Washington, N.J. ●● Printed in U.S.A. ●● CONSUMERS' RESEARCH BULLETIN is on file in many school, college, and public libraries and is indexed in Industrial Arts Index and in the Readers' Guide to Periodical Literature.

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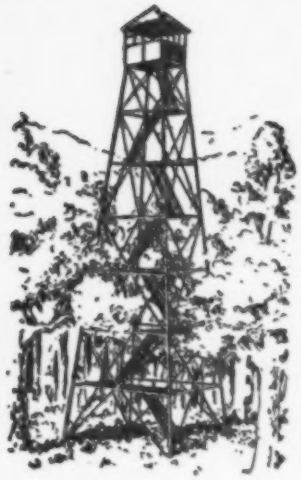


The Consumers' Observation Post

WHETHER AUTOMOBILE BUYERS really want a small light car has been the subject of some research by Grant Advertising, Inc., whose vice-president; Edward R. Grace, recently addressed the Society of Automotive Engineers on results of the survey. Of some 1600 car drivers interviewed more than half thought that motor manufacturers should produce a smaller, lighter car in addition to their present models. A preliminary study had indicated that slightly more than half of those questioned would rather buy a new car oftener than have a car last longer. One interesting sidelight developed in the earlier survey was that when it was merely a question of preference without relation to purchasing power, the average person yearned for a big, luxurious automobile.

* * *

THAT VITAMIN D has detrimental effects to the human system when taken in excessive doses is a fact that CR has brought to subscribers' attention from time to time for many years. More recently, a scientific exhibit at the annual meeting of the American Academy of Dermatology and Syphilology showed some of the injurious and even fatal consequences from taking vitamin S and indicated that self-medication with the vitamin may produce kidney damage, calcium deposits, and other serious disturbances of health.

* * *

PROPER THAWING of frozen fruits is the key to good flavor, according to a study made by a home economics student at Mansfield (Pa.) State Teachers College. If home-frozen blueberries are allowed to thaw at room temperature, they will likely be tough. If, on the other hand, the frozen package is put in a pan of warm water (110°F), allowed to thaw for 15 minutes, and the berries served immediately, they will be excellent. Peaches and strawberries may also be treated in the same manner. Many vegetables, however, are found to have a better flavor if put to cook into boiling water in their frozen condition.

* * *

FORMALON, a "bust-building" cream, was the subject of complaints to the Food and Drug Administration by a number of dissatisfied users, reports Advertising Age. The product contained an estrogenic substance called "stilbestrol" and the claim was made that the daily application of one-half teaspoonful of Formalon would guarantee bust development in 12 weeks. Twelve women reported no success. The Food and Drug Administration is taking action against the head of the firm for selling a misbranded drug in violation of the Federal Food, Drug, and Cosmetic Act.

* * *

SHIRTS AND PAJAMAS are beginning to pile up on dealers' shelves as men's sales resistance to present prices continues to mount. According to The Wall Street Journal, men who formerly bought six are confining their purchases to one or two shirts at a time. Increasing costs of material and labor have led manufacturers recently to raise prices still further by 25 cents a shirt at retail, which makes the cost to the consumer double that of pre-war days. Little hope for a price decline in the near future is seen by Business Week, which reports that the quota of high-quality, long-staple cotton from Egypt that is needed for shirts, handkerchiefs, blouses, sewing thread, and fine dress goods isn't large enough to fill demand. Southern cotton growers in the U. S. are dead set against allowing any more cotton to come in from Egypt, for that would cut the price of the long-staple fiber in this country.

* * *

"ATHLETE'S FOOT" which has afflicted some 90 percent of American adults is caused by a fungus. Because of the prevalence of this disease, many patients

cannot be treated with penicillin or streptomycin, in the opinion of Dr. Samuel M. Peck. Apparently the "athlete's foot" causes a sensitivity to these two antibiotics in some people which makes them unable to tolerate treatments with the two drugs.

* * *

HOME BUILDERS looking for an economical buy in bathroom fixtures may be interested in Sears Roebuck's "package bathroom" which consists of a lavatory, bathtub, and toilet with drainage system, priced at $189.50 for a 3-inch system and $204.50 for a 4-inch system. The catch is that you may very likely have to install it yourself, personally (in places where it is legal for the householder to do his own plumbing work). Testimony before a Congressional committee brought out the fact that master plumbers in a considerable number of cities throughout the country have refused to handle installation of Sears' merchandise. In some cases, the committee's testimony indicated, such equipment was installed only after a "commission" or bribe of 20 percent was paid to the plumbers in addition to their installation charges. In Lancaster, Pa., the owner of a newly-remodeled four-apartment house was fined $25 by the city building inspector after he himself had attempted to install Sears' plumbing that local plumbers had refused to handle. Somebody ought to call the matter to the attention of our trust-busting attorney general, and to corresponding authorities in the Commonwealth of Pennsylvania, who seem not to be on the job in a very important issue affecting the consumer's pocketbook.

* * *

"THE QUALITY OF HAMBURG being served in restaurants has been particularly unsatisfactory," observes Food and Drugs Director Ferguson in a recent Massachusetts Health Department bulletin. It appears that in Massachusetts the use of onion and spiced sauces has enabled some restaurants to disguise the decomposition of hamburgers served to their patrons. One customer is reported to have remarked that if the first taste of hamburger was not up to expectations, he merely added more catsup. The noticeable lack of freshness in ground meat dishes is not confined to Massachusetts. There are many who deem it unsafe to eat hamburger or meat loaf except when it has been prepared in their own kitchens.

* * *

HIGH PRICES FOR FOOD continue to be the subject of much complaint and stiff consumer resistance. Eggs are being used in increasing numbers as a substitute for the more expensive meat. Commercial bakers wail because the homemaker has quit buying fig bars that have gone up from 31 to 43 cents, coconut marshmallows from 25 to 43 cents, and assortments from 39 to 54 cents, in the space of two years. In some sections homemade cookies are displacing the bought variety. Dried fruits, preserves, syrups, salad dressings, and canned sea food are also reported to be going begging. Although consumer resistance is expected to have some effect on prices, the administration is committed to "supporting" the prices of certain commodities when they fall below a certain level. These include corn, wheat, rice, peanuts, eggs, potatoes, and sweet potatoes. Moreover, the farm block is making a vigorous drive to have Congress place permanent "price floors" under certain commodities at a higher than prewar level. Consumers who do not wish to continue to pay farm subsidies via their grocery bills will need to make their wishes known to their representatives and senators. The cost of living of every consumer is involved in a very direct and substantial way.

* * *

HUDNUT'S EGG CREME SHAMPOO has been seized at Hartford, Conn., by federal officials on the grounds that the name "Egg Creme Shampoo" constitutes misbranding under provisions of the Federal Food, Drug, and Cosmetic Act. The charge is that there is only a minute proportion of egg in the product.

* * *

DISINFECTANTS are selective in the germs they kill. There is, contrary to popular belief, no one disinfectant or antiseptic that will be effective in all cases, although ordinary tincture of iodine is considered the best for general home use. Studies of the use of aqueous solutions of mercurochrome, merthiolate, and metaphen were reported recently by researchers Harry E. Morton, Frank B. Engley, Jr., and Dr. Leon L. North, Jr., of Philadelphia, in the Journal of

(The continuation of this section is on page 29)

Electric Ironing Machines

THE housewife who decides to buy an ironing machine must also make up her mind that its efficient use will require that she learn to operate it properly; she may have to work on several weeks' washing before she becomes really proficient. Yet, if she acquires sufficient skill, she will find the ironer is a time and labor saver. To be fair to the ironer, we must remember that any woman would need considerable time to become proficient with a hand iron. Once the technique of using an ironer has been mastered, however, it will save her not only much physical fatigue, but will also save time and give some types of work a finished appearance, almost impossible to attain by hand.

There are two types of electric ironers designed for home use, the flat press and the rotary. As consumers have seemed to evince relatively little interest in the flat-press type, this report has been confined to the rotary type, eight samples of which were bought for test—two portable models and six complete (table) units.

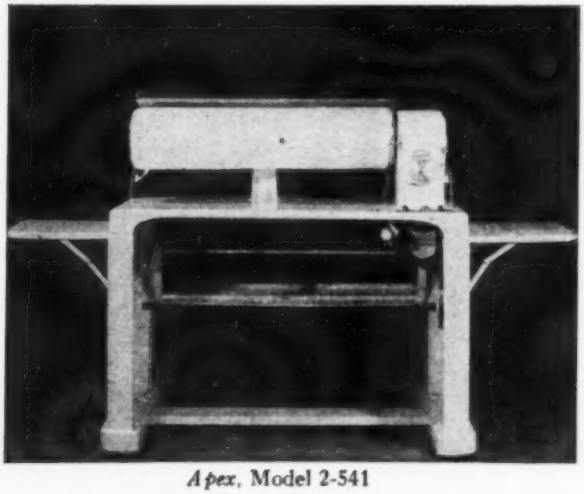
All of the ironers purchased were equipped with at least one thermostat; some had two, which is an advantageous feature, since it allows the operator to reduce the heat on the unused end of the roller, preventing waste of electricity and scorching of the roll cover. Most of the thermostats were found satisfactorily accurate, and there was appreciable variation from the setting only where noted in the listings.

All of the machines withstood the standard 900-volt proof-voltage tests, but with the exception of the *Thor Gladiron*, all showed high leakage current after they had been exposed for 24 hours to high humidity. It is believed that the fault is rather typical of electric ironers, and that it is not too serious, as it would normally be expected to clear up rather quickly with subsequent operation under ordinary room conditions of temperature and humidity. (An exception will be noted in respect to the *General Electric* portable model which had by far the worst leakage current and took approximately two hours of operation thereafter to reach a safe leakage limit.)

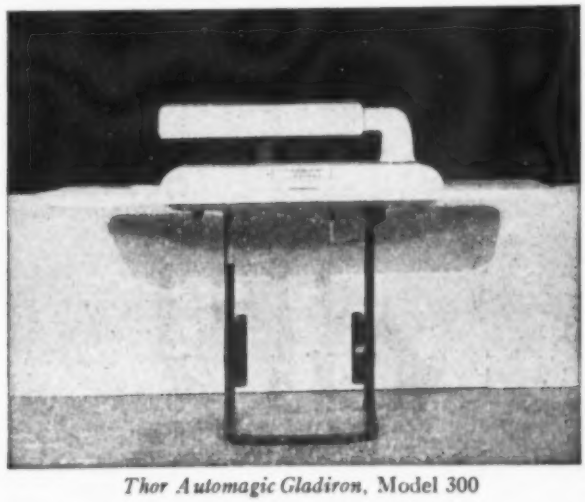
Maximum power input was measured and is noted in each listing in parentheses following the rated wattage. The maximum temperatures of parts likely to be touched, as reached during continuous operation for one hour at the highest thermostat setting, were below accepted limits (130°F for metal, 150°F for materials other than metal), except where otherwise noted in the listings.

Rusting of the shoe and other metal parts of an ironer in long-continued periods of humid weather can be a serious problem, and note was made of even a slight tendency to rust or corrosion after the ironers had been exposed to 90% relative humidity for 24 hours.

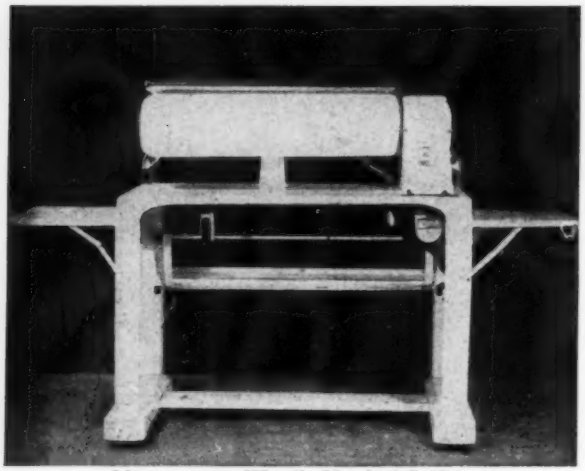
An ironer left at its maximum setting while its user makes a tele-



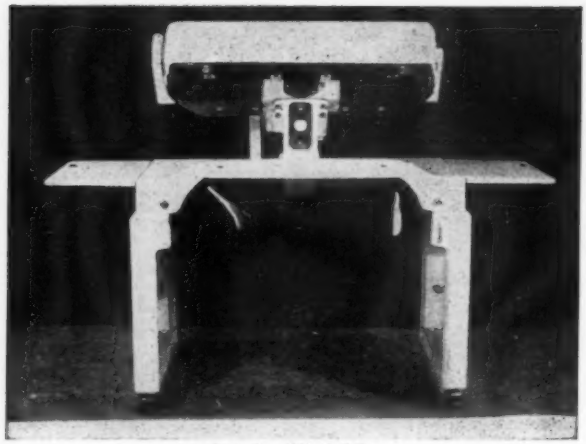
Apex, Model 2-541



Thor Automagic Gladiron, Model 300



Montgomery Ward's No. 74AC-47A



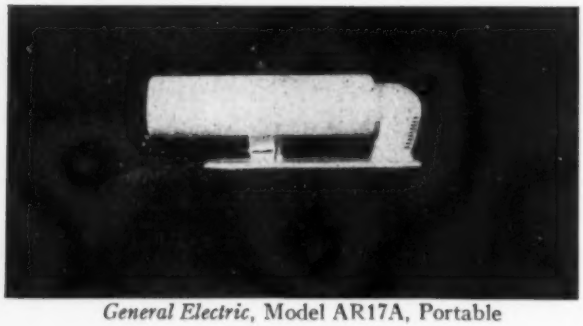
Ironite, Model 75

phone call or a "brief visit" with a neighbor might be a potential fire hazard. To determine whether the hazard was actual with the ironers tested, the machines were operated for an hour at the maximum setting with the roller in motion against the shoe and for another hour at the maximum setting, but with the shoe in the released position. The conclusion reached at the end of these tests was that no practical danger of fire appeared to exist under either condition, although some of the roller covers turned brown and one smoked somewhat.

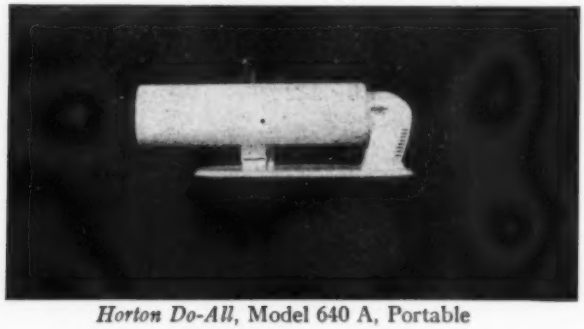
Two series of actual ironing tests were made. In the first, testing laboratory technicians ironed 36-inch hemmed squares of silk, rayon, wool, flannel, cotton, and linen on each ironer with the thermostat set properly for each kind of material, to determine which ironers gave the best results.

In the second series of use tests, three women ironed ordinary weekly home washings on each ironer and each made notes as to which she deemed easiest to use, which gave best results on shirts and on flat work, and indicated points of criticism. Two of these users had never used any rotary-type ironer and so had no bias in favor of any particular kind; the third operator had used a portable *Horton* ironer every week in her own home.

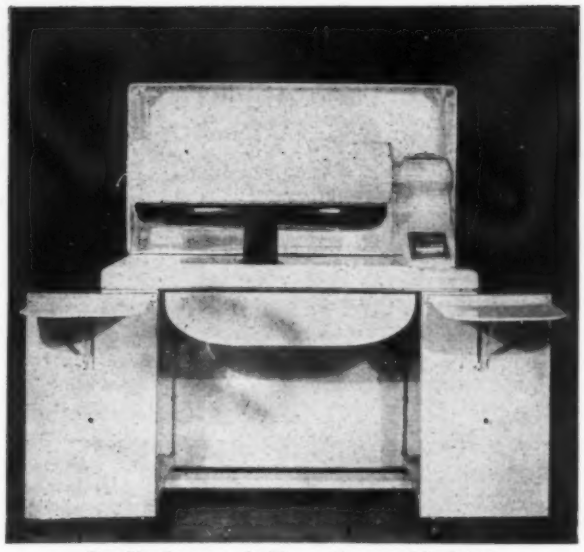
This second series of tests brought out some interesting points. Some judged the small roller of the *Thor* an advantage in ironing shirts, children's dresses, and other rather complicated pieces, but it seemed slow and gave less satisfactory results on larger flat work than the ironers with larger rollers. Some of the ironers had both a fast and a slow speed; the slow speed was an advantage in ironing pieces which had to be adjusted and moved about on the roller frequently. A freely turning roller was an advantage in placing work in proper position for ironing. Those ironers in which the heated shoe is above the roller seemed easier for the beginner to learn to use than those in which the shoe is beneath the roller; this was because the user sees the side of the work being ironed in the first instance and sees only the reverse side in the second. After the operator got used to this "upside-down" thinking, however, results with the one type were just as good as with the other. With the shoe beneath the roller, items to be ironed can be easily inserted from either side, which is an advantage, but in the two ironers of this type tested, the finished pieces dropped to the ironer's table surface into the space behind the post which supported the shoe, making it necessary to slide them out to one side for final folding. This was particularly



General Electric, Model AR17A, Portable



Horton Do-All, Model 640 A, Portable



Bendix Automatic Home Ironer, Model D

inconvenient when sheets and other large pieces were being ironed, as they became mussed in the process, a fact that seemed to outweigh the advantage of having both ends of the shoe open.

The mechanism which controlled operation of the ironing shoe of the large *General Electric* (Model AR20) was defective and had to be repaired before tests could be completed. This ironer had much to recommend it and was felt in general to be potentially the most desirable machine tested. Results of both laboratory and home ironing tests were exceptionally good; its low speed operation was so very slow that it would not be used often, but it was found very advantageous in ironing heavy linen tablecloths; such ironing could be done satisfactorily without the repeated going over necessary with most of the other ironers.

Throughout the test, however, small difficulties arose which indicated that some changes in engineering design and better factory quality control were needed to make the *AR20* a first-class product: The motor was badly placed for a tall user; it was about in the middle of the knee space, uncomfortably close to the operator's knees, especially when it had heated up in use. The hinge arrangement of the lap protecting shelf had to be tightened to prevent the shelf from dropping down against the user's thighs. One person operating this ironer accidentally struck the emergency release; it was then found necessary to disassemble the mechanism to put it back into operating condition. Overheating of the thermostat handles was considerable; this was the more important because the switches were found to be unduly hard to turn to the desired positions. Finally, before home ironing tests were completed, the pressing mechanism failed.

In all ironers except the two portables, the mechanism for bringing shoe to the roller, or roller to the shoe, was power operated.

Ratings are cr48 and are based on combined results of laboratory tests and findings in actual use.

A. Recommended

Montgomery Ward's No. 74AC-47A. $126.95. Underwriters'-Laboratories approved. Identical with the *Apex* (see below). Practically the same results as *Apex* in both series of ironing tests. Not shown in Montgomery Ward's 1948 Spring and Summer catalog, but may be available in some retail stores. **1**

Thor Automagic Gladiron, Model 300 (Hurley Machine Div., Electric Household Utilities Corp., 54th Ave. and Cermac Road, Chicago) $99.50. U. L. approved. Shoe above the roller with 1 thermostat; roller could be turned but was not "free." This was the only ironer tested with leakage current within accepted limits under all conditions. 1620 watts (1610). Thermostat switch became too hot (temperature much above 150°) after 1 hour's operation at maximum setting. Slight rust spot formations on shoe after 24 hours' exposure to humidity. Revolutions per minute, highest of ironers tested, but small diameter of roller (3.25 in.) made resultant speed in feet per minute rather slow (8.5 ft.). Results of laboratory ironing tests, fairly good. In home ironing tests, some found the small diameter roller to be an advantage in ironing sleeves which could be slipped over it, and other pieces of the sort which require much shifting about on the larger rollers to obtain satisfactory results; the small roller was somewhat of a disadvantage, however, for large flat pieces which were more easily ironed on machines with larger rollers. **1**

Apex, Model 2-541 (The Apex Electrical Mfg. Co., Cleveland) $179.50. Underwriters'-Laboratories approved. Shoe above the roller, with 2 thermostats, 2 speeds, and "free" roller; all advantageous. Leakage current under humidified conditions, above accepted limits for electrical appliances generally, but nevertheless one of four lowest found in this test. 1500 watts (1475). Temperature of right thermostat switch was found very slightly above accepted limits after 1 hour's operation at maximum setting. Moderately fast, 10.6 ft. per minute on high speed. Results of laboratory ironing tests indicated this to be one of two best ironers tested. One of three best in "home" ironing tests; found easy to use, and results were satisfactory, but cord rack was inconveniently placed, being close to motor, which became hot enough to burn operator's hand unless care was used in replacing cord at conclusion of ironing. **2**

B. Intermediate

General Electric, Model AR20 (General Electric Co., Bridgeport, Conn.) $179.95. U.L. approved. Shoe above the roller, 2 thermostats, 2 speeds, and "free" roller; all advantageous. Leakage current under humidified conditions, slightly less than *Apex*. 1575 watts (1600). Temperatures of both thermostat control knobs were considerably above accepted limits after 1 hour's operation at maximum setting. Moderately fast, 10 ft. per minute, on high speed. One of two best in laboratory ironing tests. In home ironing tests, results obtained were excellent, but several serious disadvantages were found (see text). This ironer not pictured. **2**

Ironrite, Model 75 (Ironrite Ironer Co., Mt. Clemens, Mich.) $174.50.

U. L. approved. Shoe below the roller with 1 thermostat. Roller could not be turned freely. Leakage current above accepted limits under humidified conditions but only slightly less desirable in this respect than *Apex* and *Wards*. Wattage not stated on name plate (1325). Temperatures of all parts likely to be touched, well below accepted limits. Slight rust formation on shoe during 24 hours' exposure to humidity. Speed of roller, 13.5 ft. per minute, fastest of ironers tested. Results of laboratory ironing tests, good. In home ironing tests, this type of ironer was found somewhat more difficult for inexperienced users to operate because the side of the material that is being ironed is not visible to the operator, but satisfactory results were obtained with practice. Open ends of shoe permitted work to be fed from either side as well as front, an advantage, but finished work fell behind shoe-supporting post and larger pieces sometimes became mussed while being removed. Some difficulty was experienced by tall operators in using the knee control. **2**

C. Not Recommended

General Electric, Model AR17A, Portable (General Electric Co., Bridgeport, Conn.) $44.75. U.L. approved. Shoe above roller with 1 thermostat and 1 speed; shoe was manually operated. Roller not free. Leakage current, very high (greater than 100 milliamperes) with machine in humidified condition; it took 2 hours of operation at maximum thermostat setting at room temperature and humidity to reduce leakage current to safe limits. 1275 watts (1250). Temperatures of parts likely to be touched were within accepted limits. Slight rust spot formation on shoe and shoe hinge during 24 hours' exposure to humidity. Speed of roller, slow (7 ft. per minute). Thermostat inaccurate; temperature low at all settings. Results of laboratory ironing tests: poor on silk, rayon, wool, flannel, and linen; good on cotton. Results of home ironing tests, poor. and operators objected to manual operation of shoe as reducing possibility of labor saving. **1**

Horton Do-All, Model 640 A, Portable (Horton Mfg. Co., Ft. Wayne, Ind.) $44.50. U. L. approved. Apparently identical with *General Electric Portable* and had the same unsatisfactory characteristics; leakage current very high (19 ma.) but not as high as *General Electric Portable*. In laboratory ironing tests, results were poor on silk, rayon, and wool; very poor on flannel; very good on cotton; and good on linen. Comments as to home ironing results on *General Electric Portable* apply to the *Horton*. **1**

Bendix Automatic Home Ironer, Model D (Bendix Home Appliances, Inc., South Bend, Ind.) $219.50. Shoe below the roller with 2 thermostats and 2 speeds. Roller not free. Leakage current under humidified conditions, considerably higher than ironers rated *A* and *B*. Wattage not stated (1750). Temperatures of all parts likely to be touched were within accepted limits. No signs of corrosion appeared during 24 hours' exposure to high humidity. Fast, 13.4 ft. per minute on high speed. Thermostat inaccurate, temperature too low at rayon and cotton settings. Results of laboratory ironing tests: poor on silk, wool, and flannel; fair on rayon; good on cotton; very good on linen. In home ironing tests, was shown to have several disadvantages in addition to position of shoe under the roller. Ironer was considered large and clumsy; it required more storage space than any of the other ironers tested; the cord plugs in at the back of the ironer (inconvenient); the numerous small shelves which could be lifted into place for table space were judged to be of little use, and some were in the way; the small tray which extends over the user's lap was not rigid and dropped to a position on the user's thighs, uncomfortable; roller was lumpy in sample tested and gave finished work a poor appearance. This ironer is provided with an arrangement whereby the shoe and forming board can be pulled down to permit proper laying out of work to be ironed to avoid curling up of edges, common with this type of ironer; when the piece was arranged, forming board and shoe were pushed back again into the ironing position he device served its purpose satisfactorily but was inconvenient to use. The safety release was conveniently located directly at front of ironer and was easy to strike, but because of this was often operated unintentionally **3**

Photographic Slide Rule

PHOTOGRAPHERS who have frequent occasion to make conversions between the metric and English systems, as in mixing up a new developer from a formula given only in one system, etc., should find *The Photographic Slyd-Rul*, manufactured by The Slyd-Rul Co., 144-44 Sanford Ave., Flushing, N.Y., and retailing at $1, a useful and time-saving gadget. It consists of a vinylite slide working in a sheath with scales provided for converting: Grams to ounces and grains, and vice versa; cubic centimeters to fluid ounces and minims, and vice versa; meters and centimeters to feet and inches, and vice versa; Centigrade to Fahrenheit temperature scales, and vice versa; comparing *Weston*, *G.E.*, and ASA film speeds; comparing *f* stops with former U.S. stops; mixing percentage solutions in either the metric or English systems. There is also a brief table of 14 entries of conversion factors. The device would have been more useful if the conversion factors had been figured for converting from grams per liter to ounces and grains per 32 fluid ounces, and vice versa, because photographers who do not use the metric system are accustomed to make up solutions in multiples or siuple fractions of 32 ounces.

Men's Rubbers and Women's Rubber Boots

In most parts of the country, both men and women find that some type of rubber footwear is a very necessary part of a wardrobe, particularly in seasons when snow, mud, and rain are a problem.

Men's rubbers seem to be made in the same styles, year after year, but women's rubber footwear, like women's clothing, changes in fashion periodically. Since just now it seems to be the fashion for women to wear "boots," this was the type purchased for this test. The boots purchased were of two styles, those with a zipper and those with a buckled ankle strap. The men's rubbers were all of the so-called "storm" style, which has a tongue covering the instep.

To give best service, rubber footwear should be strongly constructed of good materials; it is particularly important that the material used should have good resistance to abrasion. In CR's tests, the rubbers and boots were dissected to observe constructional details, and samples of both sole and heel rubber were given abrasion tests.

Men's Rubbers

For good construction, men's rubbers should have rolled sole edges, and foxing strips (extra strips of rubber along the edges) are a desirable reinforcement. The toe pieces and counters of rubbers should be strong, and there should be a lining throughout, not only for wear but for soil resistance. Heels should be stiff, that is, firm and not flexible. Some of the men's rubbers had a roll at the base of the heel, a projection called a "kick off," which makes it possible to remove the rubbers easily. This was judged to be a desirable feature.

Care for Your Rubber Footwear

Wash after each use.

Dry away from direct heat.

Remove immediately any residue of oil, fat, or grease (which makes rubber deteriorate quickly).

Store, free from folds and wrinkles, in a cool, dry place.

Buy the right size—neither too small nor too large.

Women's Boots

Women's boots, like men's rubbers, should have stiff heels and strong toes and counters. Some women's boots have rolled sole edges; others do not, and the edges of these should be reinforced with foxing strips. All seams should be reinforced. Buckled straps are stronger if there is a piece of cloth where the strap joins the boot, and if the strap itself is strengthened with cord.

If a zipper closing is used, a snap fastening at the top is desirable. In the women's boots tested, linings were either stockinet or "fleece" fabric. Either is judged desirable if of good quality, and the choice is one of personal preference. All the women's boots listed had stockinet linings, except as noted.

Results of CR's Tests

The ratings of the rubber footwear as to construction fell rather closely together, indicating that various makers' practices do not differ greatly. On this account, the final ratings tended to depend largely upon resistance of the rubber soles and heels to abrasion. It is interesting to note that, as a whole, the material used in men's rubbers offered higher resistance to loss of material by abrasion than the rubber in the women's samples. This may be, in part, the manufacturers' recognition of the possibility that women are more likely to discard their boots as out of style before they are completely worn out.

Ratings are cr48.

Women's Boots

A. Recommended

Goodrich, Military Boot (B. F. Goodrich Co., Akron, Ohio) $3.95. Buckled strap over instep; low heel. Brown "fleece" lining. Resistance to abrasion of sole and heel rubber, good. Details of construction, good, best of the women's boots tested.

Servus, Snagproof (Servus Rubber Co., Rock Island, Ill.) $3.99. Side zipper with snap fastener at top of zipper (desirable); medium heel. Resistance to abrasion of sole and

heel rubber, good. Details of construction, good.

Tyer, Hostess Boots (Tyer Rubber Co., Andover, Mass.) $3.50. Buckled strap over the instep; low heel. Resistance to abrasion, good, by far the best of all women's boots tested. Details of construction, good.

Winsor (Winsor Rubber Co.) $3.65. Side zipper, no snap fastener at the top; medium heel. Resistance to abrasion, good. Details of construction, about average.

B. Intermediate

Ball Band, Edith (Mishawaka Rubber & Woolen Mfg. Co., Mishawaka, Ind.) $3.95. Buckled strap over instep; low heel. Resistance to abrasion, above average. Details of construction, below average.

Glove Brand, Paddock Boot (Goodyear Mfg. Co., Naugatuck, Conn.) $3.95. Buckled strap over instep; low heel. Resistance to abrasion, about average. Details of construction, about average.

C. Not Recommended

Commonwealth (Montgomery Ward's Cat. No. 26—9544) $3.69, plus postage. Side zipper, no snap fastener at the top; medium heel. Resistance to abrasion, poor. Details of construction, below average, lowest of the women's boots tested.

Continental, Black Boot (Sears-Roebuck's Cat. No. 76—9848) $3.89, plus postage. Side zipper, no snap fastener at the top; low heel. Resistance to abrasion, very poor, one of two poorest of the women's boots tested. Details of construction, about average.

Converse, Weathervain (Converse Rubber Co., Malden, Mass.) $4.45. Side zipper, no snap fastener at the top; high Cuban heel. Resistance to abrasion, very poor, one of two poorest of the women's boots tested. Details of construction, below average.

U. S. Gaytees (U. S. Rubber Co., Naugatuck, Conn.) $3.95. Buckled strap over instep; low heel. Resistance to abrasion, poor. Details of construction, about average.

Men's Rubbers

A. Recommended

Converse Corporal (Converse Rubber Co., Malden, Mass.) $1.98. Had "kick off." Resistance to abrasion, good. Details of construction, above average.

Glove Brand, Romeo College (Goodyear Mfg. Co., Naugatuck, Conn.) $2.25. Resistance to abrasion, very good. Details of construction, below average.

Tyer, Sierra (Tyer Rubber Co., Andover, Mass.) $2.25. Had "kick off." Resistance to abrasion, very good, by far the best of all the men's rubbers tested. Details of construction, below average.

B. Intermediate

Gold Seal (Sears-Roebuck's Cat. No. 76—9150) $1.79, plus postage. Had "kick off." Resistance to abrasion and details of construction, about average.

Goodrich (B. F. Goodrich Co., Akron. Ohio) $2.25. Had "kick off." Resistance to abrasion, average. Details of construction, below average.

U. S. Royal (U. S. Rubber Co., Naugatuck, Conn.) $2.25. Resistance to abrasion, about average. Details of construction, below average.

C. Not Recommended

Ball Band (Mishawaka Rubber & Woolen Mfg. Co., Mishawaka, Ind.) $2.25. Resistance to abrasion, poor. Details of construction, above average.

Commonwealth (Montgomery Ward's Cat. No. 26—9488) $1.59, plus postage. Resistance to abrasion, about average. Details of construction, below average, lowest of the men's rubbers tested.

Hood (Hood Rubber Co., Div. of B. F. Goodrich Co., Watertown, Mass.) $2.25. Had "kick off." Resistance to abrasion, poor (poorest of the men's rubbers tested). Details of construction, about average.

Servus (Servus Rubber Co., Rock Island, Ill.) $1.79. Had "kick off." Resistance to abrasion, poor. Details of construction, good, best of the men's rubbers tested.

Chatillon Baby Scale—Later Report

SINCE the test reported in the October 1947 BULLETIN was carried out, additional tests have been made on five new samples of the *Chatillon Baby Scale*, Model G-30-A. The findings indicate that the scale used in the original series of tests may have been mechanically damaged in shipment. (The possibility of the kind of damage to rack and pinion mechanism referred to has been reduced in later shipments by the insertion of a long steel pin between the frame and the scale pan support so as to prevent movement of the spring and pointer during shipment.) In previous tests, the scales gave errors (due to friction) as large as 16 ounces. In the present test, the greatest error was found to be about one-quarter as much. This error, however, is still considered too large for a scale of this type and is of approximately the same magnitude as the error found in the *Hanson* and *Maid of Honor* spring scales previously reported. Government specifications, for instance, show an allowable tolerance of 1½ ounces in the 20 to 29 lb. range, for this type of scale.

Face Powder

CR Reports on 23 Brands

COSMETIC FASHIONS, like hemlines, change from time to time. Not so long ago it was considered ultra-ultra to have a shiny face. Currently a foundation make-up job that makes a girl look as if she were about to show up on a Technicolor movie set is "high style." In spite of such caprices, however, face powder has continued to be a staple cosmetic on the dressing tables of many women. Even when a high shine was the latest thing in faces, most women found that a more flattering effect was achieved by an application of powder.

Since the flights of fancy of the writers of advertising copy have been somewhat restricted by the Wheeler-Lea Act of 1938 which extended the power of the Federal Trade Commission over misleading advertising claims, there is nothing startling that can be said for the qualities of face powder and no marvelous effects to be attributed to its use. Today, it is reported, women buy face powder primarily because of its shade, and perhaps for its perfume. How different from the turn of the century when *La-Blache Face Powder* was advertised in Harper's Bazar, January 12, 1901, as "An exquisite toilet necessity" which "freshens, clears, beautifies the complexion. Restores and preserves its natural softness and beauty." The day of such promised miracles is over.

Face powder as currently manufactured in the United States is a high quality product. Gone are the days when the dangerously poisonous white lead was a possible constituent. It is carefully formulated to afford coverage of tiny defects and blemishes of the skin. Light, medium, and heavy coverage are provided according to the ingredients used.

The chief constituent of face powders is talc. Other ingredients include titanium or zinc oxide to give hiding power; magnesium, zinc, or calcium stearate for "cling"; calcium or magnesium carbonate to carry the perfume; and coloring materials to provide a skin tint or shade.

Occasionally starch is used in formulating a particular face powder, a carry over from earlier days when face powders were customarily rice powder or *poudre de riz*. Since a number of women have been found to have an unpleasant allergic reaction to starch, most manufacturers have eliminated it from their formulas. Of 23 brands recently tested for CR, the only one which showed the presence of starch was the *Elizabeth Arden Poudre d'Illusion*, which otherwise was a powder of high quality.

Fairly recently it has been discovered that some women are allergic to zinc in cosmetics. Just how widespread this sensitivity may be is not clear at the present time. Zinc compounds are apparently in rather extensive use in the manufacture of face powder, for CR's current tests indicated that zinc was present in all brands with the exception of *Almay*. It was found in only small amounts in the *Woodbury* and *Lady Esther* brands. Until more is known about the effect of zinc on the skin and the extensiveness of its allergenic effect, however, no attempt will be made to evaluate the face powders on the basis of its presence or absence.

In accordance with CR's previous methods of tests, 23 well-known brands of face powder were analyzed microscopically with polarized light by a competent scientist and microscopist for the quality and fineness of the minerals present, supplemented with chemical tests for starch and zinc. As one expert has pointed out, the smaller the powder particles (within certain limits), the higher the covering power. CR's ratings of the powder are based chiefly on the mineralogical purity and fineness of the talc present. The prices shown are those actually paid for the powders exclusive of the 20 percent federal excise tax and local sales taxes.

Spreading tests made of these powders over a smooth, fine-grained blackboard surface (to simulate fine-textured skin) corroborated the mineral determinations made microscopi-

cally. The powders containing the purer talc mineral had a "smoother" feel, spread more smoothly, evenly, and produced a better covering appearance than those which received a lower rating.

Ratings are cr48.

A. Recommended

Armand Cold Cream Powder (Armand Co., Des Moines, Iowa) 3¾ oz., $1 (27c per oz.). Brunette. 1

Coty "Air Spun," L'Origan (Coty, Inc., 730 Fifth Ave., New York City) 2.64 oz., $1 (37c per oz.). Rachel No. 1. 2

DuBarry Face Powder (Richard Hudnut, Hudnut Sales Co., Inc., 113 W. 18 St., N. Y. C.) 2 oz., $1 (50c per oz.). Rachel No. 1. 3

* * *

The following powders were considered to be of high quality, but the first two of the following showed the presence of more mineral impurity; their texture was coarser and not quite so uniform as the brands immediately preceding the asterisks. The *Elizabeth Arden* powder contained talc of high quality, but contained starch also, which may have an unpleasant allergic effect on some users.

Max Factor Hollywood Face Powder (Max Factor & Co., Hollywood) 3¾ oz., $1 (27c per oz.). Brunette. 1

Elizabeth Arden Poudre d'Illusion (Distributed by Elizabeth Arden, 691 Fifth Ave., New York 16) 2-15/16 oz., $1.75 (58c per oz.). Rachel. 3

Yardley Bond Street English Complexion Powder (Yardley & Co., Ltd., 620 Fifth Ave., N.Y.C.) 2¼ oz., $1 (45c per oz.). Rose rachel. 3

B. Intermediate

The talc found in the following face powders was considered to be not of quite so high quality as that in the *A-Recommended* group.

"Botany" Brand Lanolin Face Powder (Distributed by Botany, Passaic, N.J.) 3¼ oz., $1 (31c per oz.). Rose shower. 1

Evening in Paris Face Powder (Bourjois, Inc., 35 W. 34 St., N.Y.C.) 2⅝ oz., 50c (19c per oz.). Rachel. 1

Luxuria Face Powder (Harriet Hubbard Ayer Inc., 323 E. 34 St., N.Y.C.) 3.58 oz., $1 (28c per oz.). Peach. 1

Pond's Dreamflower Powder "Sheer-Gauge" (Pond's Extract Co., 60 Hudson St., N.Y.C.) 1.1 oz., 25c (23c per oz.). Brunette. 1

Revlon "Wind-Milled" Face Powder (Revlon Products Corp., 745 Fifth Ave., N.Y.C.) 2 oz., 60c (30c per oz.). Bachelor's Carnation. 1

Woodbury Face Powder (Jergens-Woodbury Sales Corp., Cincinnati) 1 oz., 25c. Fiesta. 1

Avon Heavenlight Face Powder (Distributed by Avon Products, Inc., 30 Rockefeller Plaza, N.Y.C.) 2½ oz., 89c (35c per oz.). Rachel. 2

Chiffon Powder (Distributed by Primrose House, 379 Park Ave., N.Y.C.) 2.82 oz., $1 (35c per oz.). Beige. 2

Dorothy Gray Face Powder (Distributed by Dorothy Gray, Ltd., 445 Park Ave., N.Y.C.) 2¾ oz., $1 (36c per oz.). Rachel. 2

Tangee Face Powder (Distributed by The George W. Luft Co., Inc., 34-12 36 Ave., Long Island City, N.Y.) 1½ oz., 50c (33c per oz.). Peach. 2

Beauty Counselor Gossamer Powder (Distributed by Beauty Counselors, Inc., Grosse Pointe, Mich.) 2 oz., $1 (50c per oz.). Rose pink. 3

Charles of the Ritz Hand Blended Face Powder (Charles of the Ritz, 11 E. 58 St., N.Y.C.) 1.25 oz., $1 (80c per oz.). 3

Helena Rubinstein Apple Blossom Complexion Powder (Distributed by Helena Rubinstein, Inc., 655 Fifth Ave., N.Y.C.) 2 oz., $1 (50c per oz.). Rachel. 3

* * *

The mineral ingredients of the following brands were considered to be somewhat lower in quality than the group immediately preceding the asterisks, but not sufficiently lower as to warrant a *C-Not-Recommended* rating.

Lady Esther Face Powder (Lady Esther, Ltd., 7171 W. 65 St., Chicago) 1-1/17 oz., 25c (24c per oz.). Havana tan. 1

Almay Face Powder (Distributed by Schieffelin & Co., 16 Cooper Square, N.Y.C.) 2¼ oz., $1.10 (48c per oz.). Rose brunette, perfumed. 3

Dermetics Moisture-Resisting Powder (Distributed by Dermetics, Inc., 630 Fifth Ave., N.Y.C.) 1½ oz., $1.25 (84c per oz.). Light Suntan. 3

Tweed Soft-Focus Face Powder (Lentheric, Inc., 761 Fifth Ave., N.Y.C.) 2 oz., $1 (50c per oz.). Beige, Rachel 2. 3

Convenient Stain Remover Kit

A CONVENIENT stain remover kit, though not in any sense a "complete" one as claimed on the box, is the *Merry Maid Spot & Stain Remover Kit*, made by Interchemical Corp., Fairlawn, N. J., which sells for $1.98 at department stores. The kit contains six spot-removing agents, a glass applicator, a medicine dropper, and a chart giving directions for use. The spot- and stain-removing agents include one inert absorbent (Fuller's earth), three bleaches (formaldehyde, potassium permanganate, and oxalic acid—all poisons, and so marked), a grease solvent (mixture of toluene and trichlorethylene—about one-half each), and a weak solution of a synthetic sulfonated detergent (soap substitute). The solvent is of the flammable type, which is undesirable, especially since good non-flammable solvents are available. One fluid ounce of each of the liquids is furnished in the original kit, and less than ½ ounce of the powder. Refills are 40 cents each, which is a lot, indeed, to charge for a single item (such as one ounce of a 1% solution of soap substitute). The convenience might well be worth the cost to some users, however, especially since the materials included represent a good selection of spotting agents, and the directions supplied are considered clear and easy to use.

Some Possibilities in Home-Built Lawn Mowers

A NUMBER of men who are handy with tools have built their own power mowers by adapting a small gasoline engine to drive a conventional lawn mower, or by building a complete mower of the horizontal rotating-flat-blade type. A number of firms are now in the business of supplying some of the parts that would be difficult to construct at home.

The power provided must be sufficient to cut the grass and, if the mower is of the revolving-reel type, to propel the mower at a speed of 2½ to 3 miles per hour. An 18-in. commercial mower, according to common practice, will be equipped with either an electric motor rated at ¼ horsepower or a 1 horsepower gasoline engine. It is better from a safety standpoint that the rotary flat-knife type should not be self-propelled.

Editor's Note:

It is with considerable hesitation that we present the following discussion of some of the points involved in making a horizontal-rotary-blade type of mower at home. As our article in the July 1947 BULLETIN explained, mowers of this type can be extremely hazardous, and danger of being cut or gravely injured by a blade spinning at high speed or breaking off and being projected through the air when a stone or other solid object is struck is great. There is reason to believe that cases have even occurred where the mower was inadvertently started when the mower was being examined and the blade turned slowly by hand. Of course any accident with this type of mower can be dangerous to life, or at least cause grave injury.

It is to be understood, therefore, that the accompanying discussion is to be regarded as strictly tentative and for the purposes of those who know how to handle dangerous power tools with rotating knives with proper care and respect for their potentially deadly qualities. The type of mower in question is too new for a record of experience of injuries, etc., to have been accumulated. We hope our apprehensions may not be borne out, but at the end of the next mowing season there should be evidence in hand as to the practical danger or lack of danger in the use of mowers of the horizontal-rotary-knife type. In the meantime, we cannot overemphasize the need for extreme caution in using and handling and working on these—for example, to be sure that nothing can happen that will permit the engine (or motor) to start while the knife or other parts of the mower is being touched or examined.

Electrically-Powered Mowers

One method of driving a mower electrically is to use a standard 110-volt ¼ hp. single phase 1750 rpm. motor operated from the house current. Most motors of this type, however, do not have a high starting torque, and the motor load at starting must be light, so that the motor can get fully up to speed. (If it does not, and the centrifugal starter switch does not open, the motor will be burned out.) An assured safeguard can be provided by use of a proper fuse or a thermal cutout on the motor (furnished on some makes). This type of electric mower, in spite of its light weight and relatively quiet operation, is not recommended, as the long cord required is awkward to deal with and keep safe when mowing, not to speak of the shock hazard and other trouble which are involved if it should be cut by the mower blades.

A second method of driving a mower electrically is the use of a standard 6-volt automobile storage battery and automobile starting motor.

The mower shown in Figures 1 and 2 was made by bolting a wooden platform to the tie rods and end frame of an 18-in. *Pennsylvania* mower. The motor and battery were mounted on the platform and connected through an auto starting switch, by starter cables (wire and switch used must be of a very heavy type because of the approximately 30 amperes which may be drawn by the motor at times). In the unit shown, the starting switch was of the solenoid type and was controlled from the mower handle. To obtain the necessary speed reduction, a 1½-in. diameter "V" pulley was used on the motor to drive a 6-in. diameter V pulley. The right-hand wheel and reel drive pinion of the

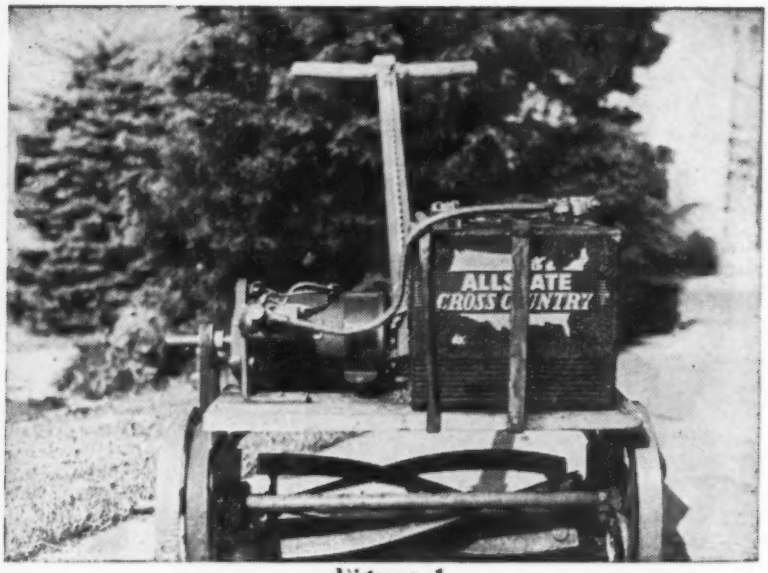


Figure 1

Figure 2

mower were removed and a 6-in. pulley mounted on the reel shaft in the space formerly occupied by the reel drive pinion. To provide clearance for the belt and pulley, a longer axle was provided for the mower wheel (see Figure 3), and slots were cut in the end frame. Driving a mower puts a heavy load on an automobile battery and will require that the battery be recharged immediately after each use on an area of, say, 5000 sq. ft.

The builder of this equipment was well satisfied with its performance despite the following peculiarities in operation:

(a) The reel and driven wheel turn all the time.

(b) To move the mower backward it must be tipped back on its wooden roller; motor, reel, and driven wheel then run at high speed. (A series-wound motor runs very fast on low load and dangerously fast at no load.) When the drive wheel is returned to its operating position on the lawn, its sudden slowing down will tear wet turf.

(c) The one-wheel drive causes the motor to tend to turn toward the right.

Gasoline-Engine Driven Mowers

Since the horsepower developed by a gasoline engine increases with its speed, up to normal operating speed, the speed reduction mechanism must be planned to fit the engine used. As a gasoline engine is usually heavier and bulkier than an electric motor, it is necessary that it be mounted in the center of the mower (standard revolving-reel type) to assure even weight distribution, and a metal base should be used to support the engine. This calls for a countershaft. The large driven sprocket or pulley will best be mounted on the reel shaft between the end frame and the reel on the side opposite to that on which the mower throws the grass as it is cut. This may require cutting about ½ in. from the ends of the blades where they overhang the end spider. Because under the new condition the reel rather than the wheels is the driving element, the dogs and small drive pinions are interchanged (placed on the ends opposite those from which they were removed); with this change, wheels will be driven in the right direction, as the reel is turned.

The motor should not be mounted too high, or too far forward, or the unit will be top heavy. A remote speed control (Bowdoin wire arrange-

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ment, available from auto accessory stores) should be mounted on the mower handle. It is also necessary to add a clutch, mounted on the countershaft. For this reason, it is recommended that a conversion kit be secured.

Lawn Mower Conversion Kit

Those who have a good 16-, 18-, or 20-inch hand lawn mower can convert it to a satisfactory power lawn mower at a reasonable cost with the kit here described.

One of these kits was purchased by CR and installed on a new *Savage* hand lawn mower (Savage Arms Corp., Chicopee Falls, Mass.). Installation required about 10 hours of a mechanic's time; the most difficult job was to cut off the ends of the blades, as required.

Turning down the ends of the rear roller shaft and drilling the main sprocket and the spider required use of a lathe and drill press; for the other operations ordinary tools and a vice would serve. The maker furnished adequate instructions with the kit. The completed lawn mower performed satisfactorily, except that the speed (with the *Maytag* engine supplied) was somewhat too slow. The manufacturer when advised of this furnished a ½-in. larger diameter drive pulley and belt which corrected this difficulty.

B. Intermediate

Handy-Dandy Maytag Kit (Le Claire Mfg. Co., Le Claire, Iowa) $63.50 complete with *Maytag* 2-cylinder 2-cycle engine and rollers. Kit consisted of motor base plate, motor pulley, chain, back tie rods, front support rods, rope starter, rope starter plate, sprocket, handle adjustment rod, clutch control rod, nuts, and bolts. The kit without engine was available separately, for those already owning a small gasoline engine, at about $24, plus $3 for the desirable sectional rear roller. (Note that prices given apply only in territories where manufacturer has no representative.) A similar kit was available to fit *Briggs & Stratton* engines. Maximum speed as received, 2 m.p.h. (new pulley furnished increased the speed to about 2¾ m.p.h., which was considered satisfactory). *Maytag* twin-cylinder 2-cycle engine was lubricated by mixing oil with the fuel; bearings, bronze; clutch, open cone type; rope pull starter. Engine speed constant (1650 rpm.). Some exhaust smoke, but considerably less than with the other 2-cycle engines tested. Materials and workmanship of both engine and kit very good. Mower was very easy to handle and did an excellent job of cutting grass. With a satisfactory 4-cycle engine, would warrant an *A* rating. **2**

Horizontal Rotary-Blade Mowers

If one has no lawn mower suitable for power operation, a complete horizontal-rotary-blade mower may be readily constructed at home.

Essentially, a mower of this type consists of a cutting blade mounted parallel to the ground and at a fixed distance above it. This blade is rotated at a high speed by a suitable source of power. The blade and motor are mounted on a wheeled carriage so that the cutter can be moved over the lawn and parrallel to it. No fixed knife or bed knife of any sort is used or needed.

Carriage

Rubber tires will make the carriage much easier to push. Tire size should be 8 or 10 in. by 1.75 or 2 in. Two, three, or four wheels may be used. Two wheels permit short radius turns but some device must be used to keep the blades parallel to the ground. A third wheel is satisfactory, if it is swivel mounted, but does not permit cutting to as uniform height as can be accomplished with a four-wheel mower. The wheel base should be kept as short as possible, particularly if the mower is to be used on fairly steep slopes; otherwise

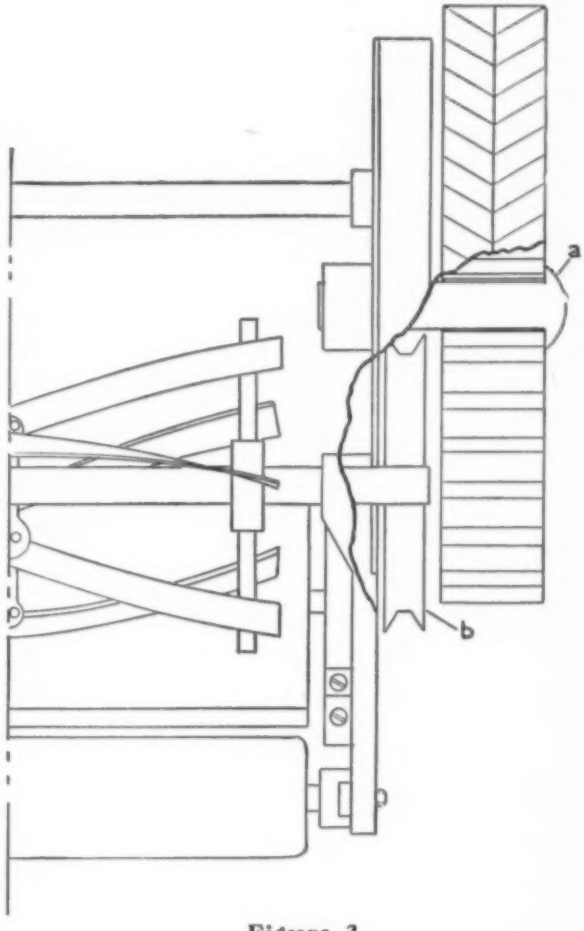


Figure 3

Diagram showing method of mounting drive pulley for mower shown in Figures 1 and 2. The longer axle which replaces the standard axle is shown at **a**. *Drive pulley mounted on reel shaft is shown at* **b**.

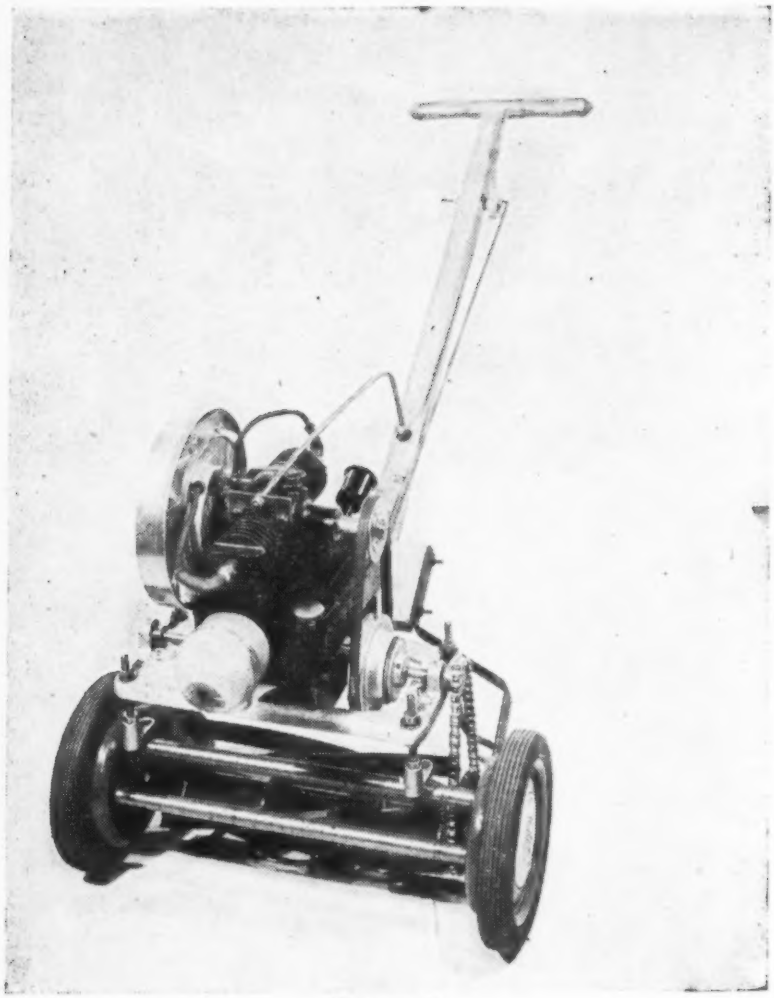


Figure 4

Handy-Dandy Maytag Kit, installed on a *Savage* Mower.

"scalping" of the lawn at some spots will occur.

Platform

Three-fourths inch plywood of the waterproof type properly protected by a paint coating having water-resistant properties (e.g., aluminum paint) makes a satisfactory platform. The front should be cut to a semi-circle with a radius about ½ in. larger than the blade radius, and provided with a suitable strong, securely attached guard.

Engine Position

The engine should be mounted close to the rear axle, thus permitting easy tilting as may be needed to facilitate steering. The engine will have a horizontal shaft and the cutter a vertical shaft; thus the belt will require a half twist in use. This makes it necessary to use a V belt at least 40 in. long, and provision should be made for adjustment of the motor forward and back, to tighten the belt. The engine must be mounted high enough to allow the belt to run into the pulleys without excessive side wear. The size of the pulley should be such as to give a drive shaft speed of at least 1500 rpm.

Drive Shafts

These can be purchased ready made, with blade included. Such assemblies are listed below. Those who wish to make their own will find the needed information in the University of Illinois circular mentioned later. It is considered that, due to the high speed of rotation, ball or roller bearings will serve best in such units.

Height Adjustment

Provision should be made to adjust the height of the cut. This can be done by having multiple mounting holes for the wheels or by using a more satisfactory method as shown in Figure 8.

Safety

A mower of the type just discussed has the disadvantage

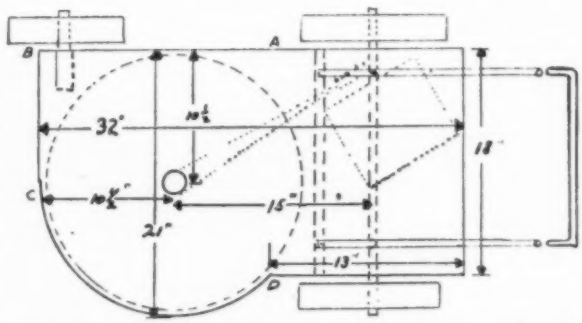


Figure 5 — Typical Horizontal Rotary-Blade Mower

Mower design which is believed to incorporate several desirable features. (The dimensions are only suggestions. Not to scale.) The design is such that the rear wheels travel only on the mown path. Engine is located so that its weight is over the rear axle. Single front wheel may be made to swivel, like a castor. Front wheel is 8 in. x 2 in., rear wheel 10 in. x 1.75 in. Off-center blade permits mower to be used for close work. Blade is guarded by metal skirt from **A** *to* **D**. *Section from* **C** *to* **D** *should be made removable. Skirt should reach to within 2 in. of ground. Metal apron just behind blade prevents injury to operator from flying objects. Guard should be made of fairly substantial metal.*

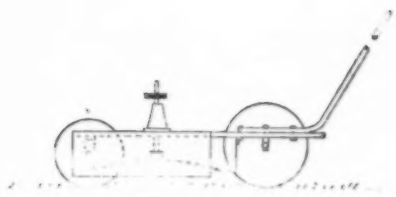


Figure 6

Side view to show general arrangement of parts; near wheel omitted for clarity. Note handle bolts through handle, axle, and spacer, in addition to base.

of being very dangerous to use unless properly guarded, perhaps dangerous under the best conditions in the hands of some persons or where young children are about. The sharp tips of a 20-in. cutter blade turning at 2000 rpm. travel about 120 m.p.h. It is not hard to visualize what would happen to an incautious finger or foot coming into contact with the blade. Further, the blade will throw rocks or other objects out with considerable force, hence it is important that it be almost completely enclosed. The front shield may be made removable for cutting under a fence, for example, but in such circumstances no one should ever stand in front of the machine.

Electric Drive for Power Mowers—Rotary Flat-Knife Type

Subject to the disadvantage of the cord previously mentioned, a ¼-hp. 110-volt motor turning at 1750 rpm. may be used to drive an 18-in. cutting blade. The motor may be mounted like the gasoline engine, or with its shaft vertical and using a very short V belt. A motor with ordinary sleeve bearings cannot be used in this position unless a special thrust bearing or collar is provided to support the weight of the armature. The motor may also be mounted vertically, shaft down, and the cutting blade mounted directly on the shaft. Some special means of height adjustment must be provided in this case since these motors usually have short shafts, and the shaft should be as short as possible, anyway, for safety.

Commercial mowers of this type are available using a 6-volt motor and a storage battery. A series-wound starting motor such as was mentioned in connection with a reel-type mower is not suitable for this use, because of its extreme speed characteristics when running without load.

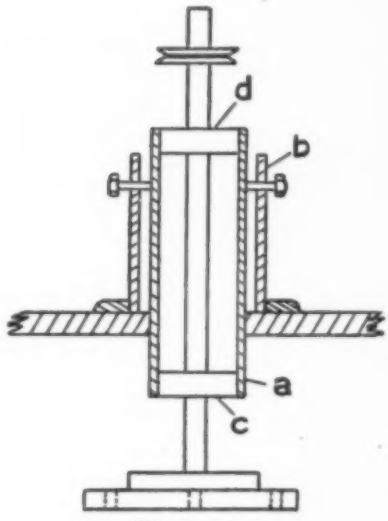


Figure 8

*Height adjusting device. Two ball bearings, **c** and **d**, fitted in ends of pipe **a**, form drive shaft support. This pipe is held in larger pipe **b**, having a pipe flange screwed to one end by two setscrews.*

Commercial Attachments for Rotary Flat-Knife Mowers

A. Recommended

T & H Rite-Way Mower Attachment (T & H Mfg. Co., 811 E. 31 St., Kansas City 3, Mo.) $19.50, f.o.b. factory. Consisted of a ribbed aluminum casing with two *New Departure* ball bearings pressed into base. Required 2-in. hole in board for mounting. A 2¾-in. outside diameter pulley was mounted on shaft with a setscrew. Lubrication for both bearings provided by *Zerk* fitting. Blade was 20 in. long and consisted of a central casting to which a plain triangular mower section was riveted on each end. Blade held to shaft by two heavy setscrews with square heads. Height of cut regulated by position of blade on its shaft. This outfit should perform very satisfactorily. Blade alone, without bearings, in 18-in. size, is available for direct mounting on electric motor at $6.50. NOTE: This firm also supplies wheels and engines for persons building a mower at home.

B. Intermediate

Nu-Way Attachment (Tractor-lite Mfg. Co., Spirit Lake, Iowa) $12.50, f.o.b.

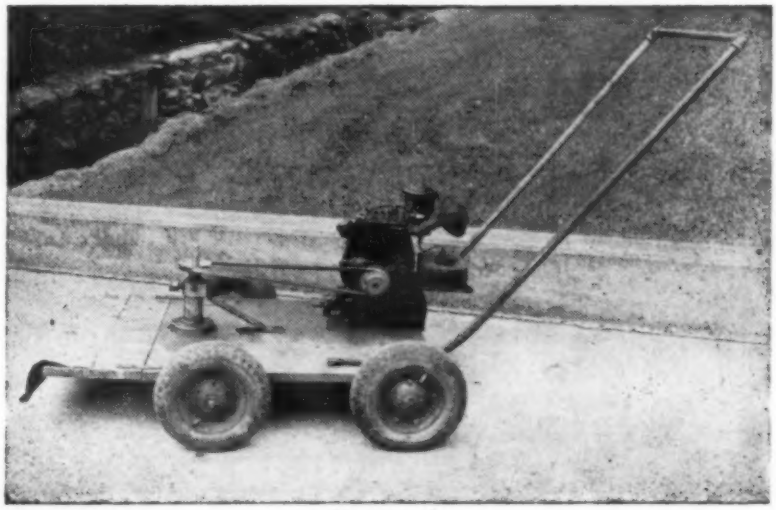


Figure 7

Homemade Rotary Flat-Knife Type Mower.

factory. Consisted of two non-ferrous flange castings bolted together to form a flanged base. Required a 1¾-in. hole for mounting. Cutting height regulated by collar adjustment which changed belt alignment slightly. Hub and blade for attachment to electric motor shaft are available at $6.50.

Useful Descriptive Literature

Circular 591—University of Illinois. College of Agriculture. Discusses at considerable length, light and heavy-duty types, thoroughly illustrated. 8 pages.

T & H Mfg. Co. Instruction Sheet. (Address given in listing.) Detailed instruction for making one type, using *T & H* parts; two alternate designs also shown.

Tractor-lite Mfg. Co. (Address in listing.) Simple sketches and instructions for use of firm's cutter bar, flange shaft, and bearing.

Catalogs of manufacturers of commercial mowers of the rotary flat-knife type.

Consumers' Research cannot assume responsibility for the satisfactory performance of mowers that may be built in accordance with the information given in this brief discussion. Their efficiency and safety in operation will necessarily depend on the skill and care of the builder, and the care with which they are used. Factory-made mowers will in most cases be more satisfactory than home-made machines, but at the present time a number of the factory-made power mowers, especially of the rotary flat-knife type, are not well designed and are lacking in essential safeguards.

★★★ *Automobile Gasoline* ★★★

WITH the exception of samples from the southeastern states, the gasolines reported in this article were purchased through the cooperation of a number of subscribers living in the regions concerned, and shipped to CR for analysis. Analyses were conducted by a specialized chemical laboratory well equipped for this work and experienced in testing of gasoline and oil. Samples from the southeastern region were bought and analyzed by a State government, but the judgments of quality are CR's, being based on the analyses in each case. The following characteristics are the ones given consideration in the ratings:

Anti-knock quality, as indicated by *octane number*. (The higher the octane number, the less the tendency to knock.)

Premium gasolines are not recommended by Consumers' Research for general use because of their high lead content; hence only regular gasolines were included in these tests. Octane numbers averaged about 76, the actual range being within the narrow limits of 74 to 80. This would indicate that the gasolines tested were satisfactory as to anti-knock quality.

Ease of starting and tendency to vapor lock; these factors depend on the volatility characteristics of the fuel. *Ease of starting* is, of course, one of the most important characteristics of gasoline, especially in the winter months; all but two of the samples were satisfactory in this respect. These two, the *Sinclair*, eastern sample, and *Derby*, western, received *B-Intermediate* ratings.

Vapor lock tendency, which is a characteristic of greater importance in summer than in winter, was used as a basis for lowering the rating of a gasoline when this tendency was considerable, but not in other cases.

Crankcase dilution, shown by the presence of kerosene-like constituents which are difficult to volatilize, and *gum content*, which, if excessive, tends to cause a gasoline to deposit a lacquer-like substance which may interfere with the free motion of valves and piston rings.

Tendency to crankcase dilution was in no case significant. Gum content was satisfactory except in one (southeastern) sample of *Sinclair H. C.* which received a *B* rating on amount of gum present.

Corrosion of engine parts, always increased by a high sulphur content, which should not exceed a fraction of 1% by weight. Actual sulphur content did not exceed 0.1% except in the midwestern samples of *Shell* Regular and *Red Crown* (Standard Oil). Because of their relatively high sulphur content, these two samples were placed in the *B-Intermediate* group.

Ratings are cr48.

Gasolines

BRAND	MANUFACTURER	WHERE PURCHASED
A. Recommended		
Amoco	American Oil Co.	SE, E
Atlantic White Flash	Atlantic Refining Co.	SE, E
Barnsdall Bronze	Barnsdall Oil Co.	W
Champlin Presto	Champlin Refining Co.	W
Conoco N-Tane	Continental Oil Co.	W
Conoco	Continental Oil Co.	SE
Crown	Crown Oil Co.	SE
Esso	Standard Oil Co.	SE, E
Good Gulf	Gulf Oil Corp.	SE, E
Mobilgas	Socony Vacuum Oil Co.	SE, E, W[1]
Phillips 66	Phillips Petroleum Co.	MW
Pure Pep	Pure Oil Co.	SE
Republic	Republic Oil Co.	SE
Richfield Hi-Octane	Richfield Oil Co.	SE
Shell	Shell Oil Co.	SE, E
Sinclair H. C.	Sinclair Refining Co.	MW
Southern States	Southern States Coop.	SE
Sunoco Dynafuel	Sun Oil Co.	SE, E
Texaco Fire Chief	The Texas Co.	SE, E, MW, W[1]
Tydol	Tidewater Oil Co.	E
B. Intermediate		
Derby	Derby Oil Co.	W[3,4]
Red Crown	Standard Oil Co.	MW[5], W[4]
Shell	Shell Oil Co.	MW[5]
Sinclair	Sinclair Refining Co.	SE[6], E[3], W[2]
Skelly Fortified	Skelly Oil Co.	W[2]
Phillips 66	Phillips Petroleum Co.	W[2]

[1]Tendency to vapor lock.
[2]Considerable tendency to vapor lock.
[3]Ease of starting somewhat low.
[4]Lead content high.
[5]Sulphur content high.
[6]Gum content high.
E, East; SE, Southeast; W, West; MW, Midwest.

A Man's White Shirt

LongWear shirts are sold by direct-mail solicitations by the New Process Company, a mail-order firm of Warren, Pennsylvania, which, as judged by inquiries received from subscribers, has a large mailing list. In a circular mailed by the company in October 1947, five *LongWear* shirts of unspecified fabric were offered for $14.75. The white dress shirt tested was selected from this group and purchased singly by mail for $2.95. It was a white-on-white patterned madras, with a fused collar and buttoned cuffs.

Tests made (the same as those given the shirts reported in the December 1947 BULLETIN—p. 13-14) included examination of the fabric for thread count and tensile strength, adherence of the shirt to marked size, shrinkage, type and durability of the collar, stitching, buttons, and workmanship. The tensile strength and weight per square yard were found to vary appreciably, because of a considerable variation in the count of the threads in the filling direction.

The quality of the shirt was found adequate, though not superior, in most respects, but the fused collar blistered after five launderings and was badly blistered after twelve. Such a shirt could not be recommended, for a shirt intended for dress wear has lost its usefulness when noticeable deterioration of the collar occurs.

Rating is cr48.

C. Not Recommended

LongWear (New Process Co., Warren, Pa.) $2.95. Thread count, average, 104 x 64. Appearance good but slightly neppy (yarns having bunches or knots). Weight per sq. yd., 3.5 oz. Tensile strength, average: warp, 63 lb.; filling, 26 lb., satisfactory. Appearance of collar after 5 launderings, poor; after 12, very poor.

Landscaping

Some Guide-Lines for Future Home Builders

ALMOST every one of the many persons who plan to build homes probably envisages a house surrounded by beautiful shrubs or evergreens, and encompassed by a velvety lawn. This mental image may well have been intensified by examination of an architect's sketch of the future house and grounds completely landscaped. A competent landscape architect could make this dream come true, but most small home owners would consider the expense prohibitive. The owner is likely to be obliged to do all planning and perhaps most of the work himself, and unless he has a better knowledge of trees, shrubs, and flowers and their care than have most inexperienced persons, he will make many mistakes and have many disappointments before an effect even remotely resembling his vision can be achieved.

Planning should start with the bare lot, before even the excavation for the cellar is started.[1] The first problem to be considered is the contour of the lot and the grading required for both adequate drainage and desired artistic effect. The contract should provide for conservation of all topsoil; there is no such thing as too much topsoil, and nearly all lots have far too little. Topsoil should be scraped from the entire surface to be graded, and from the site of the cellar, and should be piled in a spot where building trash will not get mixed in it. If the contour of the lot is such that some material must be removed to establish the desired grade, the owner should make certain that *only the clay or gravel subsoil is removed*; too often an unscrupulous contractor will remove and sell the topsoil instead, and charge the owner of the lot for its removal. Another common construction practice is detrimental to future horticultural development; in addition to subsoil, a contractor is prone to consider as fill any solid material available, such as broken concrete, brickbats, cinders, or rubble. Unless such materials are buried very deeply, and thinly, they will cause much trouble when shrubs are to be set out.

Preliminary grading is the arrangement of the soil to make an accurate subgrade; for ideal conditions it should allow for a depth of seven inches or more of topsoil in lawn areas and two feet in areas to be planted to other material. This work is preferably done by hand. Although most specifications call for removal of all building debris after construction, this is honored mostly in the breach, and it will pay the new home owner to be certain of its removal. Material of this sort is one of the worst detriments to successful planting. Rough grading done with a bulldozer usually results in pushing all building debris back to the foundation walls, where it will interfere most with later plantings. This type of grading is too rough for any practical use; there will be humps over which the layer of topsoil applied later will be thin, and hollows which must be filled

Figure 1

Upright evergreens, well-chosen, break up wall space between windows and door. The low evergreens, according to Michigan Extension Bulletin 178, may be Savin juniper, Pfitzer juniper, Dwarf Japanese yew, or Prostrate juniper.

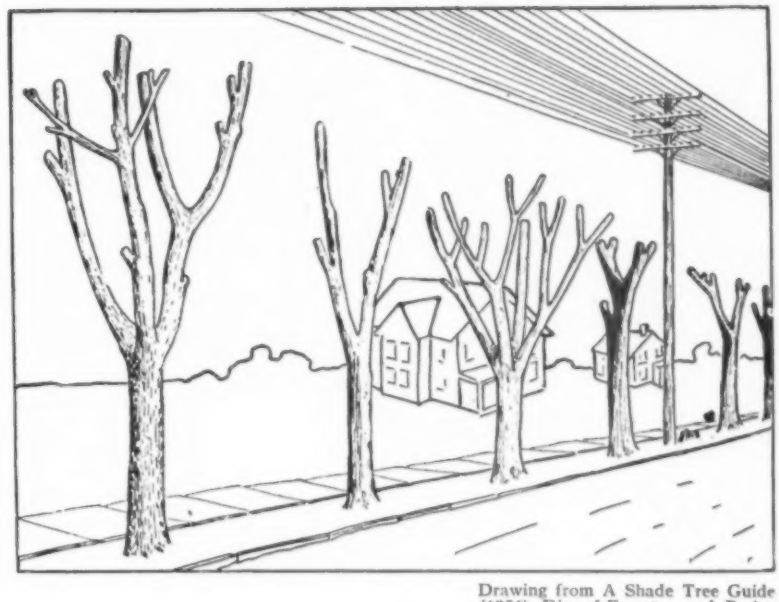
[1]See A Guide to Selecting the Home Site, Circular B2.1, available from Small Homes Council, Mumford House, University of Illinois, Urbana, free on request.

with valuable topsoil if the final grading is to be as planned.

Before the topsoil is used for finish grading, it is extremely important that the owner give thought to the question of soil improvement. Few topsoils are ideal for lawn or garden, and improvement can be made at the time of grading at less cost than subsequently. If soil improvement is not made at this time, the owner will find himself battling poor soil for years to come. Methods of soil improvement will be found in any general book on horticulture.

Establishing a lawn is a complicated operation when done well, and it is well worth while to refer to books or experiment station pamphlets on the subject, probably at the time when soil improvement is under consideration. Introduction of weed-killing chemicals of the 2,4-D type has placed a powerful weapon in the hands of the home owner. Dandelions and plantain, erstwhile lawn scourges, are readily eliminated; if used properly, even such redoubtable adversaries as bindweed and sorrel will also succumb. These chemicals, however, do not kill weed grasses which, if perennial, are extremely detrimental to a lawn, especially on poor soil. If present in the original vegetation of the lot, they may prove impossible to eradicate without resorting to heroic measures. These grasses should be eliminated before seeding a lawn, even if seeding must be postponed a season, and must be vigorously eradicated if discovered later.

If preliminary planning has enabled the home owner to avoid all pitfalls and secure an adequate soil over his entire lot, he has accomplished much. It now remains to decide what to plant, without making too many mistakes. Here again most persons will require assistance, and in the nature of the assistance obtained lies success or failure. The first planting generally undertaken by a new home owner is the *foundation planting* placed near the foundation walls of the house. The nature and extent of this development will depend upon many factors, among which are personal desires, cost, local custom, climate, soil, and the effect desired.



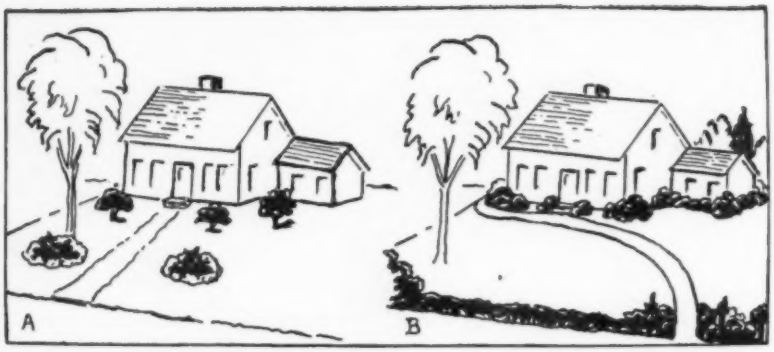
Drawing from A Shade Tree Guide (1926), Div. of Forestry and Parks, State of New Jersey

Figure 2

Trees should not be planted too near power or telephone lines, as they will eventually have to be severely pruned, perhaps ruined.

A landscape gardener may suggest a contract for a foundation planting of selected plants, all guaranteed to grow. This idea has a tremendous appeal, because in this way the home owner escapes responsibility for selection of plants and the risk of loss. Prices quoted, however, will be extremely high, and almost inevitably the owner will attempt to reduce the cost. The salesman can usually adjust the price to suit almost any purse, because plant prices vary over a wide range, but it is a certainty that as the cost is reduced, so will be the quality of the planting, which at the very lowest levels will consist entirely of the cheapest deciduous shrubs. Further, these salesmen often reserve the right to select the plants used, a reservation almost certain to lead to use of second-rate material. If the home owner's means permit planting on a contract basis, his principal concern should be the reputation and ability of the firm employed; it is well to secure proposals from several sources considered fully reliable. The agreement should be written, and the plants listed by name and size. A planting plan should be provided as well, but usually is furnished after the work is completed.

The cost of a foundation planting may be reduced by using smaller plants than originally considered, but when this is done there is a tendency to plant two small plants in the space required for one mature plant, to avoid a skimped appearance. Plants of many kinds grow much more rapidly than most people suppose, and if the planting is crowded it will not be long before one or both plants must be removed. The skimped appearance can be avoided by planting less permanent material and putting such material as annuals or perennials in the spaces. A variation of this method is to make a series of partial plantings in successive years; although this will not reduce the ultimate cost, it will distribute it over a longer period of time. A still further reduction in cost will



Drawing from Vermont Agricultural Extension Service Bulletin 93, Beautifying the Home Grounds

Figure 3

A wide expanse of smooth unbroken lawn shown at **B** *may often be more desirable than lawn cut up by plantings as at* **A**.

result if the home owner does his own planting. Some nurseries furnish a planting plan if plants are purchased from them, or will charge a fee for the plan, to be rebated when a certain amount of plant material has been purchased. Such plans are likely to be of stereotyped form, and considerable care is required to use the method with satisfaction. Some persons refrain from doing their own planting because the guarantee against loss of plants does not apply, but planting is actually not a difficult art, and losses will be small if the instructions found in any book on gardening are followed.

The average small home owner of limited means must usually select and plant his material. Before this can be done with any real discrimination, he must acquire some knowledge of the plants which he proposes to use. Too often selections are made only from a study of a few nursery catalogs, with the result that only plants familiar to the purchaser or those with interesting catalog descriptions are chosen. Assuming that his previous studies of books on landscaping have provided him with a plan for development of his home surroundings, the actual selection of plants to carry out his ideas can also be facilitated by study of suitable books. The home owner should not permit a local nurseryman to talk him out of a certain plant which he desires, but which the nursery does not have in stock, in favor of one which the nursery has. Nurseries can sell only what they have, and many small nurseries will have only "good-sellers," which are not always suitable for landscape planting. In particular, one should guard against being switched to a plant of the same genus as one he wants; plants related botanically may differ greatly in appearance and ultimate size. A nurseryman may say that a certain shrub is not hardy, when his real reason for not carrying it in stock is that it is slow growing, and hence not likely to be used in "quick effect" commercial work.

It is not good practice to buy all material at one nursery without having first looked at prices elsewhere. Because prices reflect, among other things, the quantity which the nursery has on hand, it is often possible to save considerable sums by ordering from several sources; on the other hand, shipping and packing charges may eliminate the savings if an order is split up too much.

Common errors made with coniferous evergreens are overcrowding and letting the plants get out of hand. The first is the result of close planting of small plants; people are prone to think that evergreens are slow growers, but usually after a year or two to get settled they begin to grow quite industriously. The second error stems from having a foundation planting put in without knowledge as to what the plants will do in the future. Few people realize that some of the horticultural evergreens, such as most varieties of firs, pines, and spruces, are forest trees, and even in cultivation may attain a height of 50 feet and a foliage diameter of 15 feet. The day will come when such trees must be taken out, although the time may be deferred by proper trimming. Other evergreens may be kept in bounds indefinitely by trimming; one of them, red cedar, is a common element of foundation plantings as a vertical "accent." If neglected by an indifferent or uninformed owner, it will oblige by reaching up some 20 feet or more, and become an unpleasantly large exclamation point. Even the "low spreading evergreen" will in time, if unrestrained, spread to considerable size. To plant evergreens on the theory that they can be planted and forgotten means future trouble.

Often almost the first major landscaping venture of a new home owner is the planting of an apple tree. Because a "standard" tree attains a size which makes proper spraying an impossible task for home spraying equipment, dwarf trees should be considered; both apple and pear trees are available in dwarf types. Maintenance of trees trained to special shapes and called *espalier* trees is too difficult for the tyro horticulturist. Many fruit trees are planted which never bear a crop, or at best a few isolated fruits. This probably results from the fact that the tree is self-sterile; that is, it requires the pollen of another variety of the same fruit in order to bear.

The bramble fruits such as raspberries and blackberries "sucker" so badly that they cannot be confined to a fixed location without considerable work; the suckers may come up in flower beds and ruin a number of plants. Grapes and bush fruits such as currants and gooseberries are perhaps most adaptable to a small yard; the latter two bushes, however, must not be grown in regions that have white pines, as they act as hosts

or carriers of white pine blister rust to trees that are within 1000 feet or so; planting is forbidden by law in some states. Strawberries are within the range of possibility if space can be spared. Blueberries may also be grown if their soil requirements can be met; the shrub has some decorative quality as well.

Some shrubs are propagated by grafting; this means that the roots of one kind of plant are used to support and feed the top of a different kind. Occasionally these roots will throw up shoots or suckers, and if the owner does not know that a plant is grafted, the grafted top may be choked out of existence. It is not always a simple matter to identify these interlopers. One should know what trees and shrubs in his plantings are grafted, and remove or leave the new growth accordingly.

Perennials, according to the books, are plants which come up year after year. Aside from the fact that most perennials must be divided at intervals, nursery catalogs often fail to mention, because they presume that their customers know, that some perennials are weak and die out in a few years. An even more exasperating occurrence is to pay from 35 to 50 cents for a plant and find that it is a biennial; that, in other words, after blooming once it dies. Many genera such as bellflowers, for example, have annual, biennial, and perennial species, so one should be sure which he is getting. Many biennials may be raised from seed at a cost far less than the 35 cents per plant charged for them by nurseries.

Many persons are tempted to omit annual flowers from their gardens in order to avoid the yearly chore of planting the seed. Annuals have much to recommend them, however, because they produce prompt results, and the brilliant colors of many varieties provide needed accents of strong color in the garden. It is wise to provide space for them.

Some plants proliferate so rapidly by underground growth or seed or both that they are likely to get out of hand. It is ironical to spend a year getting a plant started and then spend 10 years trying to kill it off. If a plant is referred to as *invasive*, it should be omitted.

Courtesy Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture

Figure 4

Close-up view of a small infected evergreen tree, showing typical manifestation of the blister rust disease.

The perversity of human nature is never so apparent as in a garden. Those living in the north sigh for a chance to grow tropical plants, and those in the warm zones of the country want to grow either arctic or equatorial plants. There seems to be no limit to what some people will attempt in this direction, but the beginner will do well to avoid trying to grow plants outside their normal range of climate and soil.

The assumption that all nurserymen are venerable gentlemen mellowed by years of association with floral beauty may be unjustified in many instances, for a nursery is a business—the business of selling plants profitably. Like any other business, it has its percentage of unscrupulous practitioners; of these the beginner must beware. There is no better guide than experience, but to avoid considerable loss, a large order of plant material should not be entrusted to a strange nursery without some investigation. In no commodity is quality less readily apparent than in plant material.

Among reading matter that will be of interest to the amateur landscape gardener are such magazines as *Better Homes and Gardens* and *House and Garden*. Useful books are: Montague Free, *The Pocket Book of Flower Gardens*, New York, Pocket Books, Inc., 25c. ● Ortloff and Raymore, *Garden Planning and Building*, New York, Doubleday Doran, $2.75. ● L. W. Ramsay, *Landscaping the Home Grounds*, New York, Macmillan Co., $2. ● O. M. Scott and Sons Co., Marysville, Ohio, *Lawn Care*, 25c. ● *Hill's Book of Evergreens*, D. Hill Nursery Co., Dundee, Ill. (out of print). ● P. J. Van Melle, *Shrubs and Trees for the Small Place*, New York, Scribner, $2.50. ● Alfred C. Hottes is author of five books published by De La Mare Publishing Co., *The Book of Trees* ($3.50), *The Book of Shrubs* ($3.50), *The Book of Perennials* ($2.50), *The Book of Annuals* ($2), *A Little Book of Climbing Plants* ($2). ● L. H. Bailey, *Hortus II* ($6), New York, Macmillan Co., and *Cyclopedia of Horticulture* ($35). ● Leaflet 178, *Dwarf Fruits*, U. S. Department of Agriculture. ● Leaflet 172, *Why Fruit Trees Fail to Bear*, U. S. Department of Agriculture. ● Agricultural Experiment Stations at the various state agricultural colleges usually have bulletins giving help on problems of fruit trees and sometimes ornamental plants suitable to the region.

A Liquid for "Pretreating" Fuel Oil

THERE has been much advertising in the press and on the radio of *Liquid Chimney Sweep*, a blue-green liquid selling at $2.29 for a quart can (which according to the directions is enough to "pre-treat" 250 gallons of fuel oil in the supply tank on first application, or 500 on subsequent applications). The product, it is alleged, "helps clean out and keep out heat wasting soot," "saves fuel, saves heat, saves money," "conditions the fuel," "helps dissolve and remove gum deposits, sludge, and water." Analysis indicates that the product consists to the extent of 81% of Stoddard solvent (a high flash point petroleum naphtha of a kind much used for dry cleaning); naphthalene (of which moth balls are made), 8%; water, 1%; ammonia soap, 5%; copper soap, 3%; sodium chloride, 0.5%; secondary or tertiary amine, 1.4%; free ammonia, 0.1%.

It is not possible to say at this time whether this *Liquid Chimney Sweep* can perform the the functions claimed for it, although CR will try to check on certain of the chief claims to see whether *Liquid Chimney Sweep* has at least some of the claimed effects. (A qualified chemist consultant says he does not know the purpose or function of some of the ingredients.) It is believed that the naphthalene may serve to help keep the fuel lines clean, and the copper soap might help to volatilize the soot. (Other copper compounds, at least, have been used for that purpose, in soot removers.) It is extremely doubtful, however, whether this or any similar product can be effective in an economic sense; that is, in the average case be worth *what it may cost* to "condition" the fuel. It is our view that if the product were unquestionably effective, the manufacturer would be able to prove it, and *would* prove it in his advertising by reference to authentic, signed, carefully-executed tests carried out by competent, unbiased, mechanical engineering or chemical testing laboratories. Some consumers will be tempted by the rather vague and general claims for *Liquid Chimney Sweep*—which are notably lacking in statements that could be "pinned down" quantitatively. Our view is that those in doubt might be well advised to wait until authentic test information for the product is offered by the maker or becomes available from other technically-qualified sources.

Abridged Cumulative Index of Previous 1948 Issues Consumers' Research Bulletin

Month and Page

Amplifiers, audio†.....Feb., 14-16; Mar., 15
Aspirin, caution in use.....Feb., 29

Beets, machine for reducing size....Mar., 4
Bulbs, tulip, misleading advertising..Mar., 3
Bulletins, experiment station and technical, useful to CR.....Feb., 6
Buttons, problems in dry cleaning.....Mar., 3-4

Camera, plate and film-pack†.....Feb., 21
Cameras, foreign-made, discussion†.....Mar., 29
motion picture†.....Feb., 18
Cars, used, question of trading in†..Feb., 7-8
Cement for certain repairs†.....Feb., 8
Cleaners and detergents, soapless†.....Mar., 25-27
Corrections and emendations†.....Jan., 13; Feb., 17
Correspondence, subscribers', in writing to CR.....Mar., 34

Dishwashing machines, three automatic, final report†.....Mar., 23-24
portable†.....Feb., 9-10

Editorial.....each issue, page 2
Eggs, proper packing.....Mar., 4
Exposure guide, photographic†.....Mar., 22

Fire alarm device†.....Jan., 26
Fire extinguisher, carbon tetrachloride, hazard.....Mar., 4
Floor-polishing attachments, vacuum cleaner†.....Feb., 13
Flour, poisonous chemical in processing.....Mar., 19-21
Fuel costs, anthracite, reducing....Jan., 30

Gas stations, self-service.....Mar., 4
Gasoline saving device†.....Feb., 30
Gloves, men's leather†.....Jan., 5-8

Hair, superfluous, X-ray removal dangerous.....Jan., 3
Hair tonics, ineffective†.....Jan., 14-16

Inks†.....Mar., 30-32

Lamps, electric, portable†.....Feb., 21-23
Laundry, family, yearly cost.....Mar., 37
Lighter, pipe†.....Jan., 30
Lights, night†.....Mar., 33-34
Loud-speaker, high-fidelity†.....Jan., 13

Mayonnaise, standards.....Mar., 37-38
Meat, prices under OPA and after...Mar., 3
vital contribution to health.....Jan., 4
Motion pictures†.....each issue

Nutrition, effects on health and vigor.....Feb., 4

Oil, crankcase, cold-weather operation problem.....Feb., 12-13
motor, advertising†.....Feb., 11-12
Oranges, sun-ripened, vitamin C content higher.....Jan., 3
Paint, automobile, at reduced price†.....Mar., 10
Phonograph pickups†.....Mar., 21-22
Phonograph records†.....each issue
new books.....Feb., 29-30
Phonograph turntable units, low-priced†.....Feb., 23-24
Phosphoric acid, proposed new uses in foods.....Jan., 3
Polisher, electric, floor†.....Jan., 11
Projectors†.....Feb., 18-21

Radios, AM-FM†.....Feb., 16-17
automobile†.....Feb., 14
faults, and television.....Feb., 24-25
FM, pre-emphasis and de-emphasis†.....Jan., 21
prices declining.....Jan., 4
receivers, five†.....Mar., 11
receivers and tuners, FM, faulty low-priced table models.....Jan., 8
tuner, AM-FM†.....Feb., 16
Ranges, gas†.....Mar., 5-10
Rat control methods†.....Mar., 12-15
Recorders, wire†.....Jan., 23-25
Refrigerators, four electric†.....Mar., 16-18
Rugs and carpets, selection, care — II.....Jan., 16-18

Saucepan, pressure, undesirable for some foods.....Mar., 4
Soap powder, Rinso†.....Jan., 4, 29
Soap substitute (Leisure)†.....Mar., 38

Telescope (10-power "Officer-of-the Deck")†.....Mar., 38
Thermometers, clinical, as source of infection.....Jan., 4
Thread, sewing†.....Jan., 12-13
Tires, automobile†.....Jan., 19-20
Toilet seats for babies†.....Jan., 25-26
Tooth decay, prevention.....Feb., 4, 29

Vacuum cleaners†.....Jan., 9-11

Washing machine, automatic†.....Feb., 5-6

†indicates that listings of names or brands are included.

Reasons for Caution— Strange Substances Are Used in Modern Factory Food Preparation

By permission of the authors, we are reproducing some of the most interesting parts of a paper entitled "Exotic Chemicals in Food," by Emanuel Kaplan, Sc. D., Chief, Division of Chemistry, Bureau of Laboratories, and Ferdinand A. Korff, Director, Bureau of Food Control, Baltimore City Health Department. This paper was presented at the 30th Annual Meeting of the Central Atlantic States Association of Food and Drug Officials, Trenton, N.J., and was published in an issue of the Quarterly Bulletin of the Association of Food and Drug Officials of the United States. The information given in this excerpt is of particular importance for consumers to know about, for there are few, indeed, who appreciate the intensive chemical influences which play a role in the manufacture of many of our food products.

. . . .

Instances of chemical treatment of food are of interest. . . .a proposed method of quick freezing of foods by immersion in liquid nitrous oxide gas; the production of whipped cream by formation of stable foam with nitrous oxide gas added under pressure to cream; the use of citrates and phosphates as plasticizers in the production of homogenous cheese spreads; the addition of firming agents such as calcium salts which cause formation of calcium pectinate gel and prevent softening of tomatoes in canning; the applicati n of alum as a firming agent in pickle processing; the peeling of fruits and vegetables by lye treatment. . . .Let us quickly consider the chemical treatment of the various ingredients used in bakery practice. The flour is derived from seeds probably treated for plant disease protection with organic mercurials or similar agents and the seeds are planted on soil influenced by fertilizers. Selenium [an exceedingly poisonous mineral substance] may be extracted from the soil. In milling, flour is treated with improvers, oxidizing agents such as persulfate, bromate, iodate and nitrogen trichloride, which affect protease activity and gluten properties. Bleaching agents such as oxides of nitrogen, chlorine and benzoyl peroxide convert the yellow carotenoid pigment to colorless compounds because of alleged consumer desire for white bread. Vitamins and minerals are added in compulsory "enrichment." Mineral salts may be added to stabilize gas-retaining properties of flour gluten. Cyanide or chlorinated organic compounds may be employed in fumigation of the resulting flour in storage. The water used may be chemically purified by means of alum, soda ash, copper sulfate and chlorine. In the refining of sugar, lime, sulfur dioxide, phosphates and charcoal are employed. The salt may contain iodide and agents such as calcium and magnesium carbonates to promote "free-running" and prevent caking. Ammonium salts and other chemicals are employed as yeast nutrients. To help feed the yeast, diastatic enzymes in the form of malt preparations may be used. Chemical leaveners may contain sodium bicarbonate, alum, tartrates, phosphates, starch, and cream of tartar. Fluorine is a possible natural contaminant of the phosphate. The shortening is a refined, bleached, deodorized product, possibly hydrogenated to change liquid oil to plastic fat and if so, containing traces of nickel; or the shortening may be glycerinated and may contain antioxidants. Oleomargarine, if used, may have added color, vitamin A, neutralizers, interface modifiers and preservative; or the margarine may be packaged in a preservative-treated wrapper. Mineral oil is frequently used as a dough trough or pan lubricant. The eggs may be liquid, dry, or frozen whole eggs, yolk or white, treated with sugar, glycerine, preservative or interface modifier. Milk or milk products may contain neutralizer and antioxidants. Special pastry shells may be treated with alkalies such as ammonium carbonate, which incidentally through excessive use denature the protein and render it indigestible. In pie making, the fruits employed probably contain sulfite and perhaps added citric acid, vitamin C or other antioxidant. Artificial coal tar color may be used. Stabilizers and thickeners such as gums and treated starches may be employed as fillers. Synthetic flavors used contain glycerine, alcohol or substitute chemicals as solvents for a variety of alcohols, aldehydes, esters, acids and ketones, and may contain saccharin. Spices may be natural spices subjected to

fumigants or solvent-extracted spice essences. Mold inhibitors such as calcium propionate may be employed and the final product may be contaminated on the store shelf with insecticidal powders such as sodium fluoride.

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Off the Editor's Chest

(*Continued from page 2*)

If this has been given official sanction by the company, and represents its considered opinion —as presumably it does, since Mr. Hill is listed in a business directory as its president—it would appear to classify the *Rexair* not as a household appliance, but rather as a therapeutic device; such a device and directions for its use come under the supervision and jurisdiction of the Federal Food and Drug Administration, and its advertising claims under the jurisdiction of the Federal Trade Commission. It will be interesting to see whether the *Rexair's* health claims pass scrutiny by these two federal bureaus.

It seems that CR showed a complete lack of discernment in taking *Rexair* to be a vacuum cleaner and subjecting it to the same rigorous test procedure and critical engineering judgments as were accorded the *Electrolux*, *Hoover*, and *Singer* vacuum cleaners, for the mimeographed "Facts You Should Know" continues:

> Consumers Research—January 1948 issue—paid the Rexair the finest tribute it has received since it was put on the market. It undertook in that issue to advise the public all about vacuum cleaners after, as I understand, a fifteen minute test by Electrical Testing Laboratories of some several makes. That report says that Rexair is *not recommended as a vacuum cleaner.* It is my hope that we will never be recommended as a vacuum cleaner by anyone anywhere. For ten years I have fought that classification for the Rexair and shall continue to do so. Any slap at Rexair as a vacuum cleaner is, therefore, music to my ears even though it originates in ignorance. Rexair is, of course, poison to the vacuum cleaner industry anyway because of its potentialities. It is a leader while vacuum cleaners are ancient history. Rexair wants no part of *any* vacuum cleaner tests. I trust every man in our organization remembers that well. Rexair *is not* a vacuum cleaner by recommendation or otherwise. [Emphasis in the original.]

Clearly the homemaker who was contemplating the purchase of a *Rexair* to clean her rugs is in danger of making the same mistake in judgment as Mr. Hill ascribed to CR. She would be justified in taking the *Rexair* official's word for *Rexair's* proper function, and instead look upon it as a health device and she will thus be justified in checking its claims with the Federal Food and Drug Administration or the Federal Trade Commision, Washington, D.C.

There are other comments in Mr. Hill's "Facts You Should Know" which show the same disinclination or lack of ability to discuss CR's report in engineering terms, and involve, too, outright misrepresentation of CR's findings. His implication that vacuum cleaners were rated on the basis of only "a fifteen minute test" by the laboratory is an absurdity. The actual time required for testing a single vacuum cleaner is approximately *five working days*, or 40 hours.

The gentleman also reveals that his knowledge of law is on the sketchy side when he says:

> Of course, if it really mattered, a suit could be started. Then Consumers Research would stand on the Electrical Testing Laboratory report. That would protect them.

Engineering data or a test report that is inaccurately, improperly, or incompetently carried out is a poor defense against a libel suit, if any real injustice has been done a manufacturer. For the benefit of subscribers who are not informed in engineering matters, it may be well to note that the laboratory referred to in the quotation from Mr. Hill's memo is the most outstanding in the country in the field of testing electrical and related appliances, and is so recognized in professional circles in the U.S.A. and abroad. It was quite a few years ago that the Food, Drug, and Cosmetic Act, and the Wheeler-Lea Act enforced by the Federal Trade Commission, outlawed the old-time patent medicine man's soaring-claims methods of selling nostrums, but apparently the technique can still be used in, shall we say, the vacuum cleaner field; or must we reconstruct our terminology and use Rexair's own classification, the "health unit" field?

Ratings of Motion Pictures

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Charm, Chicago Daily Tribune, The Christian Century, Cue, Daily News (N.Y.), *The Exhibitor, Harrison's Reports, Motion Picture Herald, National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time, Variety* (weekly), and *Unbiased Opinions of Current Motion Pictures* which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, or Vitacolor)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	3	9	**Adventure Island**	*adv-c A*
—	4	3	**Albuquerque**	*wes-c A*
—	3	3	**Alias a Gentleman**	*com A*
—	3	2	**Along the Oregon Trail**	*mus-wes-c AYC*
—	5	8	**Always Together**	*com A*
1	1	5	**An Ideal Husband**	*dr A*
—	3	1	**Angels' Alley**	*com AYC*
—	—	3	**Arnelo Affair, The**	*cri-mel A*
—	4	1	**Bandits of Dark Canyon**	*wes AYC*
—	8	—	**Beauty and the Beast**	*fan A*
—	3	6	**Beware of Pity**	*dr A*
—	4	5	**Big Town After Dark**	*cri-mel A*
—	7	—	**Bill and Coo**	*com-c YC*
1	12	3	**Bishop's Wife, The**	*fan A*
—	2	3	**Black Bart**	*wes-c AY*
—	2	2	**Black Hills**	*mus-wes AYC*
—	1	8	**Blackmail**	*mys-mel A*
—	1	5	**Blonde Savage**	*adv AY*
—	5	3	**Blondie in the Dough**	*com AYC*
—	3	2	**Blondie's Anniversary**	*com AYC*
—	—	6	**Blue Veil, The**	*dr A*
1	13	3	**Body and Soul**	*dr A*
—	—	5	**Bohemian Rapture**	*mus-biog A*
—	4	2	**Bowery Buckaroos**	*com AYC*
—	—	5	**Buckaroo from Powder River**	*mus-wes AYC*
—	1	5	**Bulldog Drummond at Bay**	*mys-mel AYC*
—	3	2	**Bulldog Drummond Strikes Back**	*mys-mel AY*
—	4	9	**Burning Cross, The**	*dr A*
—	2	7	**Bury Me Dead**	*cri-mel A*
1	12	1	**Bush Christmas**	*mel YC*
—	3	—	**Caged Fury**	*mel AY*
1	10	2	**Call Northside 777**	*doc-mel A*
—	4	2	**Campus Honeymoon**	*mus-com A*
—	8	2	**Captain Boycott**	*hist-dr A*
1	10	5	**Captain from Castile**	*hist-dr-c A*
—	2	5	**Caravan**	*adv A*
—	3	4	**Carnival of Sinners**	*dr A*
—	—	—	**Cary and the Bishop's Wife** (See Bishop's Wife, The)	
—	—	4	**Case of the Baby Sitter**	*com A*
2	10	2	**Cass Timberlane**	*nov A*
—	2	1	**Cavalleria Rusticana**	*mus-dr A*
—	3	1	**Check Your Guns**	*mus-wes AYC*
—	3	1	**Cheyenne Takes Over**	*wes AYC*
—	1	2	**Children on Trial**	*doc-dr A*
—	3	2	**Chinese Ring, The**	*mys-mel AYC*
—	—	3	**Code of the Saddle**	*wes AYC*
—	2	3	**Comedy Carnival**	*com-c A*
—	3	5	**Crime Doctor's Gamble The**	*cri-mel A*
—	9	6	**Daisy Kenyon**	*dr A*
—	3	3	**Dangerous Years**	*mel AYC*
—	8	6	**Dark Passage**	*nov A*
—	8	8	**Deep Valley**	*mel A*
—	3	12	**Desert Fury**	*mel-c A*
—	2	11	**Desire Me**	*war-dr A*
—	—	7	**Devil Ship**	*mel A*
—	2	6	**Devil's Envoys, The**	*fan A*
—	4	5	**Dick Tracy Meets Gruesome**	*mel A*
3	9	1	**Double Life, A**	*dr A*
—	5	4	**Driftwood**	*dr AYC*
—	1	4	**Elixir of Love**	*mus-dr A*
1	3	8	**Escape Me Never**	*dr A*
1	4	2	**Eternal Return, The**	*dr A*
—	8	4	**Exile, The**	*hist-dr AY*
—	1	6	**Exposed**	*cri-mys AY*
—	6	4	**Fabulous Texan, The**	*mel A*
1	4	1	**Fanny**	*dr A*
—	1	3	**Farewell, My Beautiful Naples**	*mus-dr A*
—	5	1	**Fighting Mad**	*mel AY*
—	1	4	**Fighting Vigilantes**	*wes AYC*
—	3	7	**Flame, The**	*cri-mel A*
—	—	4	**Flashing Guns**	*wes AYC*
—	1	3	**For You I Die**	*mel A*
3	5	12	**Forever Amber**	*dr-c A*
—	8	7	**Foxes of Harrow, The**	*adv A*
1	12	3	**Frieda**	*war-dr A*
2	11	5	**Fugitive, The**	*dr A*
—	13	4	**Fun and Fancy Free**	*mus-car-c AYC*
—	5	3	**Furia**	*mel A*
—	4	8	**Gangster, The**	*mel A*
—	—	6	**Gas House Kids in Hollywood**	*mys-mel AYC*
—	3	1	**Gay Ranchero, The**	*mus-wes-c AYC*
4	12	2	**Gentleman's Agreement**	*dr A*
—	—	5	**Ghost Town Renegades**	*wes AYC*
—	4	1	**Girl of the Canal, The**	*dr AY*
—	2	5	**Glamour Girl**	*mus-com A*
—	9	8	**Golden Earrings**	*war-mel A*
—	10	6	**Good News**	*mus-com-c AYC*
—	4	1	**Great Dawn, The**	*mus-dr A*
—	2	3	**Great Glinka, The**	*mus-biog A*
1	4	10	**Green Dolphin Street**	*dr AY*
—	1	2	**Gun Talk**	*wes AYC*
—	—	—	**Hal Roach Comedy Carnival** (See Comedy Carnival)	
—	—	4	**Half-Past Midnight**	*mys-mel A*
—	1	4	**Hat Box Mystery, The**	*mys-mel A*
—	3	2	**Heading for Heaven**	*com A*
—	6	9	**Heaven Only Knows**	*fan A*
—	11	6	**Her Husband's Affairs**	*com AY*
1	4	1	**High Tide**	*cri-mel A*
1	7	6	**High Wall**	*mel A*
—	7	—	**Holiday Camp**	*com A*
—	4	2	**Homesteaders of Paradise Valley**	*wes AYC*
2	11	3	**Hucksters, The**	*nov A*
—	3	9	**Hungry Hill**	*dr A*
—	4	1	**Hunted, The**	*mel A*

A	B	C		
—	3	1	**I Became a Criminal**	*cri-mel A*
—	5	3	**I Love Trouble**	*mys-mel A*
—	5	9	**I Walk Alone**	*cri-mel A*
—	1	2	**Ideal Husband, An**	*com-c A*
—	2	4	**Idiot, The**	*dr A*
—	8	8	**If Winter Comes**	*dr A*
1	4	2	**If You Knew Susie**	*mus-com AYC*
—	3	1	**In Self Defense**	*mel A*
—	2	1	**In the Name of Life**	*dr A*
—	2	6	**Intrigue**	*mel A*
—	3	8	**Invisible Wall, The**	*cri-mel A*
1	6	10	**It Had to be You**	*com A*
—	1	8	**Jassy**	*nov-c A*
—	2	1	**Jiggs and Maggie in Society**	*com AY*
—	4	—	**Joe Palooka in the Knockout**	*mys-mel AY*
—	2	8	**Key Witness**	*cri-mel A*
1	8	3	**Killer McCoy**	*mel A*
—	—	3	**King of the Bandits**	*wes AYC*
3	12	2	**Kiss of Death**	*mys-mel A*
—	3	2	**Last Days of Boot Hill**	*mus-wes AYC*
—	3	2	**Last Frontier Uprising**	*mus-wes-c AYC*
—	6	—	**Last Round-Up, The**	*mus-wes AYC*
—	—	5	**L'Atalante**	*dr A*
4	14	1	**Life With Father**	*com-c AYC*
—	1	4	**Linda Be Good**	*mus-com A*
—	5	4	**Lone Wolf in London, The**	*mys-mel A*
1	7	5	**Long Night, The**	*dr A*
—	6	8	**Lost Moment, The**	*dr A*
—	4	1	**Louisiana**	*mus-biog AY*
—	5	9	**Love from a Stranger**	*cri-mel A*
—	8	5	**Love Laughs at Andy Hardy**	*mus-com AY*
—	3	2	**Lover's Return, A**	*com A*
—	1	2	**Lucia di Lammermoor**	*mus-dr A*
—	1	3	**Lucky Bride, The**	*mus-com A*
—	7	6	**Magic Town**	*dr A*
—	—	6	**Main Street Kid, The**	*com AY*
—	11	4	**Man About Town**	*com A*
—	—	4	**Man of Evil**	*mel A*
—	1	3	**Marco Visconti**	*adv A*
—	3	2	**Marshall of Cripple Creek**	*wes AYC*
—	1	4	**Mary Lou**	*mus-com AY*
—	—	4	**Midnight in Paris**	*cri-mys A*
—	7	4	**Miracle Can Happen, A**	*com A*
—	10	4	**Mother Wore Tights**	*mus-com-c AY*
—	5	9	**Mourning Becomes Electra**	*dr A*
—	4	3	**Murderer Lives at Number 21, The**	*mys-mel A*
—	1	5	**My Father's House**	*doc-dr A*
1	5	6	**My Girl Tisa**	*dr AY*
—	11	3	**My Wild Irish Rose**	*mus-biog-c AY*
2	4	—	**Naked City, The**	*mel A*
—	7	7	**Nicholas Nickelby**	*nov AY*
—	7	10	**Night Song**	*mus-dr A*
—	6	13	**Nightmare Alley**	*mel A*
—	7	1	**On the Old Spanish Trail**	*mus-wes-c AYC*
—	3	5	**Open Secret**	*mel A*
—	6	5	**Out of the Blue**	*com A*
—	7	10	**Out of the Past**	*mys-mel A*
—	5	3	**Pacific Adventure**	*dr AYC*
—	5	1	**Panhandle**	*wes-c A*
2	5	2	**Panic**	*cri-mel A*
1	9	3	**Paradine Case, The**	*mys-mel A*
1	5	—	**Pearl, The**	*dr A*
—	5	2	**Philo Vance's Secret Mission**	*cri-mel AY*
—	1	3	**Piccadilly Incident**	*war-dr A*
—	5	10	**Pirates of Monterey**	*mel-c A*
—	—	3	**Prairie Express**	*wes AYC*
—	1	2	**Prairie Raiders**	*mus-wes AYC*
—	1	7	**Pretender, The**	*cri-mel AY*
—	4	4	**Prince of Thieves, The**	*hist-dr-c AYC*
—	4	4	**Railroaded**	*cri-mel AY*
1	6	8	**Red Stallion, The**	*dr-c AYC*
—	7	—	**Relentless**	*wes-c AY*
—	3	3	**Return of Rin Tin Tin**	*dr-c YC*
—	1	4	**Return of the Lash**	*wes AYC*
—	4	1	**Revenge**	*war-dr A*
—	12	4	**Ride the Pink Horse!**	*cri-mel A*
1	16	—	**Road to Rio**	*mus-com AY*
—	—	4	**Road to the Big House**	*mel A*
—	1	2	**Robin Hood of Monterey**	*wes AYC*
—	3	2	**Robin Hood of Texas**	*mus-wes AYC*
—	10	4	**Roosevelt Story, The**	*doc AY*
—	3	—	**Rose of Santa Rosa**	*mus-com AYC*
—	3	5	**Roses Are Red**	*cri-mel A*
—	3	2	**Russian Ballerina**	*mus-com A*
—	2	3	**Saigon**	*mel A*
—	5	9	**San Quentin**	*mel A*
—	—	4	**Scared to Death**	*mys-c A*
—	4	—	**Schoolgirl Diary**	*dr AYC*
—	3	8	**Secret Beyond the Door**	*mel A*
—	17	2	**Senator Was Indiscreet, The**	*com A*
—	3	2	**Sepia Cinderella**	*mus-com A*
—	1	3	**Shadow Valley**	*mus-wes AYC*
—	3	3	**Shakuntala**	*dr A*
—	1	2	**She Returned at Dawn**	*dr A*
2	7	4	**Shoe Shine**	*dr A*
—	2	3	**Sign of the Ram, The**	*dr A*
—	5	11	**Singapore**	*mel A*
—	9	5	**Sleep, My Love**	*cri-mel A*
—	4	2	**Slippy McGee**	*dr AYC*
—	1	2	**Smart Politics**	*mus-com AY*
—	2	1	**Smoky River Serenade**	*mus-wes AYC*
—	3	2	**Smugglers, The**	*mel A*
1	10	6	**So Well Remembered**	*war-dr A*
—	7	5	**Something in the Wind**	*mus-com A*
—	3	4	**Son of Rusty, The**	*dr AYC*
3	7	7	**Song of Love**	*mus-dr AY*
2	4	—	**Song of My Heart**	*mus-dr AYC*
—	6	6	**Song of the Thin Man**	*mys-mel A*
—	7	4	**Spirit of West Point, The**	*dr AYC*
—	3	1	**Springime in the Sierras**	*mus-wes-c AY*
—	1	3	**Stage to Mesa City**	*wes AYC*
—	1	7	**Stork Bites Man**	*com AY*
—	5	1	**Story of Tosca, The**	*mus-dr A*
—	1	2	**Stranger from Ponca City, The**	*mus-wes AYC*
—	2	4	**Sweet Genevieve**	*mus-com A*
—	—	3	**Swing the Western Way**	*mus-wes AYC*
—	10	5	**Swordsman, The**	*dr-c AYC*
—	—	5	**Symphonie Fantastique, La**	*mus-biog A*
1	10	2	**T-Men**	*doc-dr AYC*
1	6	3	**Tawny Pipit, The**	*com AYC*
1	5	1	**Tender Years, The**	*dr AYC*
—	2	5	**Tenth Avenue Angel**	*dr AY*
—	3	11	**That Hagen Girl**	*dr A*
1	10	4	**This Time for Keeps**	*mus-com-c A*
—	4	5	**Three Daring Daughters**	*mus-com-c A*
—	3	2	**Thunder in the Valley**	*dr-c AYC*
2	8	—	**To Live in Peace**	*war-mel AY*
—	9	1	**To the Ends of the Earth**	*doc-mel AY*
4	5	3	**Treasure of the Sierre Madre, The**	*dr A*
—	—	4	**Twins**	*com A*
—	2	5	**Two Blondes and a Redhead**	*mus-com A*
—	8	8	**Tycoon**	*mel-c AY*
—	8	7	**Unconquered**	*hist-c A*
—	2	1	**Under Colorado Skies**	*wes-c AYC*
2	9	5	**Unfinished Dance, The**	*mus-dr-c AY*
—	7	5	**Unsuspected, The**	*mys-mel A*
—	3	5	**Untamed Fury**	*mel A*
—	3	10	**Upturned Glass, The**	*cri-dr A*
—	—	5	**Vacation Days**	*mus-wes AYC*
1	12	2	**Voice of the Turtle, The**	*com A*
—	7	2	**Volpone**	*com A*
—	2	1	**Voyage Surprise**	*com AY*
—	—	3	**We Lived Through Buchenwald**	*war-doc A*
—	1	4	**Western Heritage**	*wes AYC*
—	—	6	**When a Girl's Beautiful**	*mus-com A*
—	11	4	**Where There's Life**	*com A*
—	1	3	**Whispering City**	*cri-mel A*
—	—	3	**White Stallion**	*wes AYC*
—	2	3	**Wild Frontier, The**	*wes AYC*
—	7	13	**Wild Harvest**	*mel A*
—	4	2	**Wild Horse Mesa**	*mus-wes AYC*
—	2	3	**Winner, The**	*mus-dr A*
—	9	3	**Wistful Widow of Wagon Gap, The**	*com A*
—	1	3	**Woman from Tangier, The**	*mel A*
—	10	6	**Woman's Vengeance, A**	*mel A*
—	1	6	**Women in the Night**	*war-mel A*
—	9	4	**You Were Meant for Me**	*mus-com AY*
—	1	3	**Zygmunt Kolosowski**	*war-dr A*

The Consumers' Observation Post

(Continued from page 4)

the American Medical Association. Their conclusions were that all three substances are not effective germicides, for virulent organisms treated with them for as long as ten minutes were still sufficiently potent to be capable of causing fatal blood poisoning.

* * *

THE SUPPLY SITUATION with respect to household appliances is improving, according to a survey reported in a recent issue of Steelways. Seventy-nine percent of the dealers queried in 53 large cities said that they were now filling orders for electric irons immediately; nearly 50 percent had washing machines in stock; but only 7 percent had new refrigerators available on the spot. Innerspring mattresses were to be had in 56 percent of the shops.

* * *

RECENTLY TESTED:

Halo (Colgate-Palmolive-Peet Co.), 7 fl. oz., 79c. Chemical analysis indicated that the essential ingredients appeared to be ammonium coconut oil monoglyceryl sulfate (14%), ammonium coconut oil soap (2%), unsaponifiable matter (0.2%), coconut oil fatty acids (2%), sodium sulfate (0.4%), ammonium sulfate (1.6%), 95% alcohol (9.6%), and water (70%). The product is one of the new synthetic detergent products based on the use of sulfated coconut oil. It will be effective as a shampoo in hard water areas, but like all of these new detergents may prove to do such an effective job of soil removal that the scalp will be dry and irritated. Coconut oil in detergents has been found irritating to some skins.

Lip-Tex (Daintee Cosmetics, New York City), 1/4 oz., 15c. Essential ingredients were judged on chemical analysis to be acetone, isopropyl alcohol, castor oil, nitrocellulose, and natural resin. The product is a type of nitrocellulose lacquer, akin to that used on the nails. It is doubtful whether it is desirable for application to the delicate mucous membranes of the lips, particularly in view of the allergenic effect of some nail lacquers, which have caused unpleasant skin outbreaks among women who are sensitive to this type of preparation.

Rock-a-by Baby Scale (Distributed by Housewares, Inc., Rockford, Ill.), sold for $7.95 by a big city department store (and identified as CC Model 100 on

In Special Editions for CR Subscribers—

More Than Skin Deep, by M. C. Phillips—The major part of this book is devoted to setting down in non-technical language the currently known scientific and medical facts about various cosmetics, with a discussion of a number of products by brand name. It also presents a brief history of the use of cosmetics in this country and traces the growth of advertising which was largely responsible for their wide distribution. The final chapter on what "Cosmetics Will and Will Not Do" will be especially helpful in providing practical advice to the woman who wants to know just what results to expect from the use of particular cosmetics. 200 pages (paperbound), $1.75

Meat Three Times a Day, by F. J. Schlink and M. C. Phillips—If you are the sort of person who finds that he has more pep and energy when he eats lots of meat, you will want to read this book. It debunks the various superstitions and dietary propaganda which hold that people ought to cut down on meat in the interest of health. The effectiveness of a high meat diet, as demonstrated in current researches, in promoting health and well-being is discussed, and there is a chapter setting forth the important part played by meat in giving pioneer Americans the vigor, energy, and capacity for hard work and innovation that have made this country great. 194 pages, $1.50

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an accompanying slip) has been recently tested. Due to poor design, the scale was found unsatisfactory, apart from the considerable errors in weighing which were produced in its use. A major defect was that if the object being weighed was not correctly positioned on the scale pan, the pan would tip through a considerable angle. This might prove to be disastrous if one were attempting to weigh a baby, as the child might even slide off the pan. Further, in the tipped position, the rod carrying the pan or the pan itself made contact with the supporting frame, which would make weighing impossible. Because of the swinging motion of the pan and its load, it would be difficult to balance the object successfully unless the object weighed were quite still--which would again be a problem in weighing a baby. Errors in weighing as large as 5-1/2 oz. were found, and such an error would be entirely too large to be tolerable on a lever- or beam-type scale. The beam, at times, came into frictional contact with the scale frame, and when this occurred, a quite inaccurate reading of the weight could be obtained.

Old Dutch Cleanser (Cudahy Soap Works, Chicago), 10c for a 14-oz. container. According to a recent test, this popular scouring powder contained the following ingredients: 1% soda soap; 4.5% trisodium phosphate; 94.5% abrasive (pumicite). Pumicite is really a natural glass, but is one of the least abrasive materials commonly found in scouring cleansers; the trisodium phosphate is a detergent agent of a kind that is quite effective in cleansing greasy surfaces. The analysis indicates that Old Dutch Cleanser should be a satisfactory general household scouring material. It is believed to merit an A rating for this use.

Margy Maid Mixer (Floyd T. Lovens, Inc., San Jose 16, Calif.), priced at $3.95, is an oblong plastic box 7 in. x 3-1/2 in. x 1-3/4 in. overall, having two removable ends and equipped with a metal plunger fastened to a perforated metal base plate which fits quite closely inside the plastic case; it was designed for mixing the coloring into oleomargarine. Directions furnished with the gadget tell the user to place margarine and coloring matter in the mixer, fasten on the cover, and let stand until the margarine has warmed to room temperature, after which mixing can be done by a few easy up and down strokes of the plunger. CR users found the device required considerably more effort than the directions indicated and that the color tended to be mixed chiefly into the center of the mass, with distribution at the outside edges very poor. There was no saving in time over the usual hand method of mixing. We understand that the manufacturer may no longer be in production on this appliance, but space is being used for these comments because some Margy Maids may still be offered in retail outlets.

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PHONOGRAPH RECORDS

By Walter F. Grueninger

Please Note: Prices quoted do not include taxes. In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended.

ORCHESTRA

Bach: *Brandenburg Concerto No. 4.* Pro Musica Orchestra under Klemperer. 4 sides, Vox Set 621. $5. Interesting, though not the best of the Brandenburgs, featuring a violin and two flutes. Sober, heavy performance by a small orchestra (desirable) with the violin soloist hacking away with too little finesse. Uneven, studio-type recording lacking resonance, extended range, and, at times, clarity. Probably a re-recording. Quiet plastic surfaces. **Interpretation A**
Fidelity of Recording B

Beethoven: *Symphony No. 4.* Cleveland Orchestra under Szell. 8 sides, Columbia Set 705. $5 85. A less frequently played Beethoven symphony, the one Berlioz called "lively, nimble, joyous or of a heavenly sweetness." Performed with precision and care. Full bodied, wide range recording topping in fidelity British-recorded Toscanini and Beecham sets.
Interpretation AA
Fidelity of Recording AA

Borodin: *Prince Igor—Polovtsian Dances.* London Philharmonic Orchestra under Fitelberg. 4 sides, Decca Set EDA 34. $5. A tame performance of barbaric dances. The Ormandy-Philadelphia Columbia disk 12269 ($1.20) offers the music that is on the last 2½ sides of the imported Decca set. Ormandy's fidelity challenges Decca's and he wins on all other counts. **Interpretation B**
Fidelity of Recording A

Newman: *Captain from Castile.* 20th Century-Fox Studio Orchestra under the composer. 6 sides, Majestic Set MZ 6. $2.95. Musical themes from the film, skillfully performed. High frequencies must be attenuated on a high-fidelity record-player and even then loudest passages sound strident, distorted. Recorded from film sound track.
Interpretation AA
Fidelity of Recording B

A Wandering Minstrel I. Richard Crean and His Orchestra. 6 sides, London Set LA 3. $3 (16 W. 22 St., N.Y.C.). Twenty selections from Gilbert and Sullivan's "Mikado," "Yeomen," "Gondoliers." Small orchestra. Wide range recording made in a "live" studio. Quiet surfaces. An outstanding product widely imported. **Interpretation AA**
Fidelity of Recording AA

VOCAL

Weill: *Street Scene*—Excerpts. Members of the original Broadway company. 12 sides, Columbia Set 683. $8.01. While this "Broadway opera" failed to achieve unqualified critical approval, it offered a unique evening before the footlights. Several of the most interesting numbers, sung by Norman Cordon and Sidney Rayner, have been omitted. But Polyna Stoska, promising newcomer, is introduced. Edgy recording, sounds best when high frequencies are attenuated.
Interpretation AA
Fidelity of Recording B

CONCERTO

Bach: *Concerto in D Minor.* Manuel Compinsky (violin), Gordon Schoenberg (oboe), and the Pacific Sinfonietta under Van Den Burg. 4 sides, Alco Set 202. $3.50 (7265 Melrose Ave., Hollywood 46). An ingratiating work generally played by two pianos but recorded here in the original form. Expert performance. Somewhat dry studio-type recording of adequate range with solo instruments close to mike, overshadowing orchestra. Quiet surfaces. **Interpretation AA**
Fidelity of Recording A

Mozart: *Concerto No. 4 for Horn and Orchestra.* Dennis Brain (horn) with the Halle Orchestra. 4 sides, Columbia Set X 285. $3.21. A gem. Exquisite music, virtuoso solo performance backed by sensitive orchestral accompaniment and fairly smooth English recording. **Interpretation AA**
Fidelity of Recording A

INSTRUMENTAL AND CHAMBER

Bruch: *Scottish Fantasy.* Heifetz (violin). 6 sides, RCA Victor Set DV 11. $7. My hat's off to all who had a hand in this recording. The work is seldom played, though it is charmingly romantic, embellishing Scottish folk melodies. Soloist and orchestra are magnificent. Recorded with splendid hall resonance on nearly inaudible plastic surfaces.
Interpretation AA
Fidelity of Recording AA

Couperin: *Suite in A Major* (5 sides) & **Marais:** *Suite in D Minor* (5 sides). Alfred Zighera (viola da gamba), Pitnam Aldrich (harpsichord). Technicord Set T 9. $5.85. (83A Washington St., Brookline, Mass.). Engaging, rarely heard works played with admirable warmth and sensitivity. Wide range recording, good balance of instruments, satisfactory surfaces. Extensive program notes. (This company's superb Set 1, a Bach recital by organist E. Power Biggs, is again available after an absence of 8 years.) **Interpretation AA**
Fidelity of Recording AA

Debussy: *Sonata No. 2 for Flute, Viola and Harp.* Wummer, Katims, Newell. 4 sides, Columbia Set X 282. $3.21. A fragile work of limited appeal expertly played and satisfactorily recorded. Does not supersede fine RCA Victor Set 873.
Interpretation AA
Fidelity of Recording A

Heifetz Encores. Heifetz (violin). 8 sides, RCA Victor Set 1158. $4. Enchanting, unfamiliar pieces played by a master. Unusually effective recording and nearly silent surfaces on 7 sides. **Interpretation AA**
Fidelity of Recording AA

LIGHT

Friml: *Songs from Northwest Outpost.* Nelson Eddy (baritone). 6 sides, Columbia Set 690. $4.20. Some fair tunes in this collection from the film, but I doubt whether any will be remembered long. Nelson Eddy, singing more expressively than usual, is well recorded. **Interpretation AA**
Fidelity of Recording AA

Glenn Miller Masterpieces. Vol. II. Glenn Miller and His Orchestra. 8 sides, RCA Victor Set P 189. $3.40. Reissues of favorites—"Chattanooga Choo Choo," "Pavanne," "Johnson Rag," etc. All the earmarks of a best seller.
Interpretation AA
Fidelity of Recording B

High Button Shoes. Original Cast. 8 sides, RCA Victor Set K 10. $4. Model T time show music of no enduring value. Routine performance. **Interpretation B**
Fidelity of Recording B

Originals by Alvy West and the Little Band (Sextet). 8 sides, Columbia Set C 152. $3.75. Chamber music fans seeking the singular may be among those who enjoy this set of new, strict tempo compositions. Hi-fi fans will like the percussion instruments. **Interpretation AA**
Fidelity of Recording AA

Waltzing with Romberg. 8 sides, RCA Victor Set 1154. $4. A fairly large orchestra plays "Blossom Time," "Waltzes," "Viennese Nights," "Vienna Beauties" and others in rousing style. **Interpretation AA**
Fidelity of Recording AA

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MORE THAN SKIN DEEP

by

M. C. Phillips

Table of Contents

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II. Selling Glamour, a brief review of cosmetic advertising
III. Protection for the Unwary, a study of the activities of the Food & Drug Admin. and the Federal Trade Commission
IV. Care of the Hair
V. Cheating Time, and Health, with Hair Dyes
VI. Care of the Hands and Nails
VII. Heightening the Effect, make-up preparations
VIII. Keeping Dainty, depilatories and deodorants
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F. J. Schlink & M. C. Phillips

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Contents

Our Meat-Eating Ancestors ..... Chapter I
Abundance of Meat: The American Heritage II
Why We Eat Less Meat Than Our Ancestors III
The Healing and Health Values of Meat IV
The Need for Protein V
Meat or Vegetables VI
Less Sugar and Starch for Better Health VII
Food and Forage for Animals — Meat for Consumers VIII
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